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TANGANYIKA

ANNUAL REPORT

on

DEVELOPMENT

1953

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CONTENTS

	Page
INTRODUCTION	1
I.—GENERAL FACTORS IN ECONOMIC DEVELOPMENT:	
COMMUNICATIONS:	
(a) Roads	2
(b) Railways	3
(c) Harbours	5
(d) Aerodromes and Air Transport	6
(e) Posts and Telecommunications	6
WATER, FUEL AND POWER	7
LAND	9
LABOUR	9
CURRENCY AND CREDIT FACILITIES	12
PUBLIC FINANCE...	14
II.—PRODUCTION AND TRADE:	
AGRICULTURE	16
FISHERIES	19
LIVESTOCK	20
FORESTRY	21
MINING	22
GEOLOGICAL SURVEY	27
INDUSTRY	27
INTERNAL AND EXTERNAL TRADE	29
APPENDIX I.—The Development Plan: Progress Reports	32
APPENDIX II.—The Development Budget: Statement of Expenditure ...	44

TANGANYIKA

Report on Development, 1953

INTRODUCTION

The report on development for 1953 follows, in the main, the form of the two previous reports in which attempts were made to present the main trends of economic progress in the territory. Previously the meaning applied to that somewhat nebulous word "development" had been largely confined to the schemes and projects financed separately from those Government activities covered in the normal budget. This somewhat restricted interpretation has been abandoned. Development cannot properly be related only to works financed from special funds, since all Government's efforts are directed towards progress in the economic, social or political spheres. Not only this but the measure of progress in the territory which could be achieved by Government is only a portion of the full development being undertaken. The ever-increasing contributions to progress by farmers, traders, miners, builders and professional men of all classes is proportionately very great and must be in the forefront when the picture of advancement is examined.

The present review concerns itself only with economic and material development in Tanganyika which in 1953 was steady if not spectacular. The remarkable boom period of the post-war years was ending in 1952 so that a less abnormal rate of progress was made during that year. In 1953 this trend continued but if the achievements were not so pronounced the general tenor of development was steadily maintained. Indeed the final results disproved the jeremiads of a few faint hearts.

To achieve steady advance in a territory of the size and variety of Tanganyika, the most constant attention must be paid to the trinity of priorities which will induce economic development, namely communications, water supplies, and agricultural and mineral production. Reference in greater detail to these subjects will be made later in the report. One factor, however, which had the most profound influence on territorial affairs in 1953 was the very severe drought which produced famine conditions in large areas and necessitated the importation of considerable quantities of expensive foodstuffs. This setback did not however detract from the very considerable progress being made both in agricultural and water development and in the improvements effected to the communications system. Agriculture of course had a lean year but sisal and coffee production was maintained at a high level, although cotton had a very reduced harvest. Water supplies both in townships and in rural areas were improved to no small extent and the programme continues. Road communications were bettered and on the railway system considerable expenditure was undertaken on capital reconstruction work, while major undertakings in the ports of Dar es Salaam and Tanga continued.

The year under review was indeed one in which the pause of tempo enabled stock to be taken of a number of schemes and plans. A realistic outlook was more apparent and if during the year development was more gradual it nevertheless proved that the country is economically resilient.

I.—GENERAL FACTORS IN ECONOMIC DEVELOPMENT

COMMUNICATIONS

The Government of Tanganyika, which is responsible for roads and aerodromes, and the East Africa High Commission, which controls Railways and Harbours, Posts and Telecommunications and air control and air radio services, plan to spend £22 million on Tanganyika communications in the period 1953-1956. Between 1947 and 1952 actual expenditure exceeded £20 million.

(a) *Roads*

The aim of the programme on road construction and improvement is to provide a system of all-weather roads throughout the Territory. Eventually this will involve linking the road system of the Lake and Western Provinces with that of the remainder of the country, improving the existing main highway from Kenya through Arusha, Dodoma and Mbeya to the south and the tenuous link between Dodoma and Morogoro, constructing two new roads from the southern border to the northern in the far west and near the coast in the east, and providing high-class roads between the ports of Tanga, Dar es Salaam and Mtwara and the exporting areas in the interior, which they serve. This master plan will take both a number of years and a great deal of money to complete. Each year the aim is to construct or improve such sections of trunk roads as are most urgently required in the light of economic development. A system of main feeder roads is also planned which will receive attention in accordance with the development of the areas which they serve. The plan is not of course rigid or inflexible since unforeseen developments may warrant a number of changes.

As a corollary to this plan a steady improvement of both the standard of the ferries and their maintenance is being undertaken.

Since the new roads which have so far been constructed replace for most of their length existing roads of lower grade, there has been no significant increase in the total mileage of the Territory's roads (about 18,393 miles maintained by Central Government and 8,000 miles of Native Authorities' tracks), but as the first stretches of bituminized roads outside Township areas have come into use and as the Public Works Department carried out a widespread programme of betterment and maintenance that was both more closely supervized than has been possible in the past and facilitated by an increasing quantity of mechanical equipment, the average standard of the main roads of the Territory has risen noticeably. This is instanced by the fact that the bi-weekly mail service between Lindi and Songea ran throughout the wet season for the first time. Development funds were again provided for the construction of new tracks and for the improvement of old ones to open up rural areas, especially areas of new settlement.

The bituminized road being constructed by Messrs. Stirling Astaldi under the supervision of the Consulting Engineers, Sir Alexander Gibb and Partners, which runs from Namanga through Arusha and Moshi to Himo (120 miles) was opened throughout its length to traffic, although certain works remained to be finally completed. On the Dar es Salaam–Morogoro road the Public Works Department took over the supervision of the contract of all but the first 27 miles from the Consultant Engineers, and work proceeded steadily although, as has been mentioned in the previous report, at reduced specifications. It

was found possible to continue the bituminizing right up to the Ruvu Bridge (mile 42). Plans are now being prepared to complete the last 14 miles into Morogoro on the original alignment. Work by the Societe Dumez on the Tanga–Korogwe road continued steadily throughout the year, but work was considerably hampered by unseasonal rains and 20 miles of road has been opened. Road construction units of the Public Works Department were at work throughout the year on the Lindi–Mingoyo and Morogoro–Iringa roads, satisfactory progress being made on the latter road. Extensive surveys were carried out especially in the Lake and Southern Provinces.

The road services of the East African Railways and Harbours Administration now operate over 1,631 route miles, a trial route of 48 miles between Mbeya and Mbozi having been added during 1953. New passenger buses, lorries and trailers have been received and put into operation together with two 1,500-gallon tankers. The heavy rains at the end of December made several roads temporarily impassable but, as a result of strenuous effort on the part of the Administration's local staff, services were restored with a minimum of delay.

A new Road Service Depot is under construction at Morogoro and major extensions are in hand to the existing Road Service Depot at Iringa.

In Dar es Salaam, the Motor Transport Company again recorded an increase in mileage and passengers carried. The figures are:—

	1950	1951	1952	1953
Number of Buses	17	20	24	30
Mileage	500,000	682,626	807,587	962,486
Passenger Carried	3,065,500	4,927,787	7,081,705	8,287,901

For the rest, road transport is in the hands of a very large number of operators, many of whom run only one or two vehicles and operate with very low overhead costs. The principle of introducing transport licensing has been accepted by Government and a suitable bill is at present being drafted.

NUMBER OF MOTOR VEHICLES OPERATING ON TANGANYIKA HIGHWAYS

	Lorries and Buses	Other Vehicles	Total
1938	1,731	3,444	5,175
1948	5,648	5,697	11,345
1950	6,371	8,923	15,294
1951	6,199	10,888	17,087
1952	6,996	11,844	18,840
1953	7,415	12,948	20,363

(b) *Railways*

A further £2½ million was spent on capital works in Tanganyika during 1953 bringing the total spent since the amalgamation of the railways with those of Kenya and Uganda in 1948 to 12 million, while a further £8 million is to be spent under the existing loan programme during the next few years. A total capital expenditure of £3,600,000 is planned for 1954 approximately two-thirds of which will be spent on rolling stock; the remainder to be spent on such works as stone ballasting and some regrading of parts of the Tanga line, strengthening of bridges and reballasting on the Central Line, improvement of water supplies, improved train control facilities and telecommunications. Plans were in hand by the end of the year for the opening to line traffic early in 1954 of the direct railway line from Mtwara through Ruo to Nachingwea.

During the year on the Tanganyika Central Line (the Tanga line being incorporated with the Kenya and Uganda Section so far as operations, accounting and statistics are concerned) passenger traffic declined by 2·3 per cent compared with 1952, the approximate number of journeys made being 1,189,000. Goods tonnage, on the other hand, showed an appreciable increase, the total volume of freight carried amounting to approximately 657,000 tons compared with 617,000 tons in the previous year. Ton-miles were greater by 5·7 per cent and totalled approximately 226,672,000. Over a quarter of a million tons were cleared by rail from Dar es Salaam during 1953, a higher volume than in 1952 and 45 per cent above that for 1950: 65,000 tons were moved inland from Tanga, also a greater volume than in the previous year. Drought conditions affected train operations throughout the second part of the year and necessitated the emergency carriage of famine prevention foodstuffs, and of water for locomotive purposes.

New works in hand during 1953 included relaying of track in heavier section rail on a portion of the Central Line and lengthening of crossing-loops on both the Central and Tanga Lines. Oil fuel installations were completed on the Tanga Line, where all main line locomotives are now oil-burning, and plans are in hand for the conversion of locomotives on the Central Line to oil-burning from their present operation partly on coal and partly on wood fuel. Investigations are proceeding for improving locomotive water supplies along the length of the Central Line and one major scheme to bring water from the Sagara Springs via Kongwa to Msagali has begun. A telephone Train Control Office was opened in Dar es Salaam during the year to control train movements and the distribution of rolling stock between Dar es Salaam and Morogoro. The system is being extended to Dodoma, 289 miles from Dar es Salaam. Additions and alterations have been in hand to the Apprentices' Training School at Tabora. There is a comprehensive programme of housing for staff of all races and further funds are being earmarked for this purpose in 1954.

Reports on the survey of a rail link with Rhodesia were studied but it was accepted that for the present time it would not be an economic proposition and that road communications should be given priority.

The preliminary economic survey of the Korogwe–Morogoro link indicated that traffic prospects were not encouraging and that an economic case could not be made for the building of the link. The Transport Advisory Council in September 1953 accepted the view that there was no cause for the building of this line for some years to come and on the recommendation of the Council a resolution was carried in the Central Legislative Assembly authorizing a reallocation for more urgent capital works of the amount of £1,500,000 previously earmarked for the building of the line.

CENTRAL LINE, RAILWAY ROAD SERVICES AND TANGANYIKA STEAMSHIP SERVICES

	Number of Passenger Journeys	Weight of Goods Carried		Ton-mileage of Traffic	
		Tons	Index (1948 = 100)	Ton-mileage	Index (1948 = 100)
1948	1,294,000	382,000	100	128,500,000	100
1949	1,438,000	435,000	114	146,000,000	114
1950	1,237,000	602,000	157	177,000,000	138
1951	1,335,000	586,000	153	186,500,000	145
1952	1,217,000	617,000	162	220,500,000	172
1953	1,189,000	657,000	172	226,670,000	176

TANGA LINE

	Number of Passenger Journeys	Weight of Goods Carried		
		Tons	Index (1948 = 100)	
1948	905,000	160,000	100	
1949	1,046,000	170,000	106	
1950	1,023,000	193,000	120	
1951	981,000	195,000	122	1951 and 1952 figures are estimated only.
1952	1,078,000	194,000	121	
1953				Not available

(c) *Harbours*

Planned expenditure on harbour works between 1948 and 1956 is £7 million. At Dar es Salaam work continued satisfactorily on the three deep-water berths, the first of which is due for completion by the end of 1954 and the other two by October 1955. The cost of one berth will be met by the Belgian Government and it will be used for the handling of that Government's transit traffic to and from the Belgian Congo via Kigoma and Lake Tanganyika. The lighterage wharf at Tanga is being extended and facilities of the port generally improved and developed.

In the Southern Province the opening of the new deep-water port of Mtwara is to take place in January 1954, with the completion of the first berth equipped with a transit shed and mobile handling appliances. A second berth is expected to be ready for traffic by mid-1955. The port of Mikindani has since been reduced to the status of a dhow port only.

Total imports, handled during 1953 at Dar es Salaam, Tanga, Lindi and Mtwara/Mikindani at approximately 668,000 tons, were two per cent greater in volume than in the previous year whilst, due to the effect of drought on primary crops, export tonnage, at approximately 485,500 was down by 1·7 per cent.

On Lake Victoria services have been maintained by the *Rusinga* and *Usoga* while the congestion complained of in respect of passengers has been relieved by the introduction of an extra vessel on a fortnightly service. On Lake Tanganyika the S.S. *Liemba* gave regular service for the whole of the year.

Harbours	Weight of Goods Handled in tons					
	Dar es Salaam		Tanga		Southern Province Ports	
	Imports	Exports	Imports	Exports	Imports	Exports
1948	333,000	171,000	70,000	136,000	89,000	45,000
1949	395,000	192,000	81,000	142,000	116,000	41,000
1950	396,000	169,000	106,000	141,000	84,000	37,000
1951	425,000	218,000	97,000	138,000	56,000	54,000
1952	501,000	261,000	107,000	160,000	52,000	73,000
1953	530,000	241,000	99,000	177,000	40,000	69,000

NET REGISTERED TONNAGE OF STEAMSHIPS ENTERING TANGANYIKA PORTS

1938	3,070,545
1948	2,287,368
1949	3,160,982
1950	3,424,218
1951	3,491,692
1952	3,629,307
1953	4,356,019

(d) *Aerodromes and Air Transport*

Tanganyika now has forty-seven aerodromes and landing strips. The existing aerodrome at Dar es Salaam, which in 1952 had more scheduled service movements than any other aerodrome in East Africa, is being replaced by a new one of international "C" standard, which will be capable of use by all aircraft that are likely to come to East Africa in the foreseeable future. Work on this new aerodrome has proceeded at a steady if rather slow pace, and is scheduled for completion in 1954. Terminal buildings and runways extensions have been constructed, at many of the smaller aerodromes in pursuance of Government's policy of providing all centres of considerable population with airfields of international "F" standard.

There are eleven radio stations in the Territory.

East African Airways Corporation provide regular and frequent services to all the more important towns within the Territory and to the neighbouring countries of Kenya, Uganda and Zanzibar, and service down the coast to Durban. A weekly tourist service between Dar es Salaam and London by Argonaut aircraft of the British Overseas Airways Corporation operated throughout the year. Central African Airways provide direct communication between Dar es Salaam, Nyasaland and Southern Rhodesia, while Sabena operate a route to the Belgian Congo. Caspar Air Charters also operate a regular service around Lake Victoria.

MAJOR AERODROMES SUMMARY OF AIRCRAFT MOVEMENTS AND PASSENGERS

	Aircraft Movements	Passengers Handled
1938	6,862 ...	6,461
1948	19,644 ...	54,009
1950	20,298 ...	111,565
1951	20,548 ...	117,952
1952	17,230* ...	118,300
1953	16,500* ...	125,000

*Larger aircraft being brought into use.

(e) *Posts and Telecommunications*

The expansion of the East African Posts and Telecommunications Administration to cater for ever-increasing needs has continued during the year. There are now 153 post offices and agencies, 50 of which provide a full range of postal services, while the remaining 103 provide facilities limited to the sale of stamps and postal orders and the delivery and acceptance of ordinary and registered mail. Five travelling post offices are attached to trains on the main railway lines.

The Administration provides a full range of mail services except for house to house delivery by postmen. Delivery is effected through the medium of private boxes, private bags and a *poste restante* service. During the year 1,376 new private boxes were installed, bringing the total number in use to 7,296. The use of the private bag service also increased.

The Post Office telephone service operated sixty-four telephone exchanges During 1953 the switchboard capacity has been increased to exchanges throughout the territory by 1,035 lines, giving a total capacity of 5,545 lines. The exchanges are connected by 10,292 miles of wire. Seven of the exchanges have only limited facilities for trunk calls. Sixty-four public call offices are in operation and 8,282 stations are connected to the system.

During the year 1953, three new manual exchanges were opened and the capacities of two automatic and twenty manual exchanges were increased. Work proceeded also on extensions to Dar es Salaam and Tanga automatic exchanges.

Radio Telephone Services are now available to most Commonwealth and European countries and to North and Central America. The first of the very high frequency (VHF) multi-channel Radio routes has been brought into operation in Dar es Salaam and Tanga and the twelve and three-channel carrier telephone systems previously working on the Dar es Salaam–Tanga overhead line have been transferred to the VHF link. The Tanga–Mombasa VHF route has been completed and is now on test but has not yet been brought into service. Work is in progress on other proposed VHF routes between:—

Dar es Salaam and Dodoma
Dodoma and Moshi
Moshi and Nairobi

On completion of the above programme, considerable improvement in the telephone trunk network will be achieved.

A further improvement has been the installation of trunk dialling equipment which enables the trunk operators at Dar es Salaam, Tanga, Mombasa and Nairobi to dial directly the subscribers at the other exchanges.

A ship to shore telegraph service is worked by the Posts and Telecommunications Administration but foreign cables are all passed by Cable & Wireless Limited.

There are 192 centres at which telegrams are accepted. Five teleprinter circuits are in use between the largest centres. Radio stations are established at twenty-seven centres, at sixteen of which the stations are the sole means of telegraph communication. The main telegraph trunk routes, and certain subsidiary routes are supplemented by radio telegraph channels. High speed radio telegraph equipment is also in use on certain of the busier circuits.

POSTS AND TELECOMMUNICATIONS STATISTICS

	Letters Handled	Parcels Handled	Telegrams Handled	Telephone Calls
1938	7,066,000	99,400	443,900	2,031,000
1948	14,580,000	191,800	696,600	5,128,000
1950	16,730,000	192,800	721,800	7,139,000 Est.
1951	17,816,000	216,100	829,900	8,329,000 Est.
1952	23,420,000	237,900	850,800	6,373,000
1953	21,564,000	233,600	834,000	7,331,269

Water, Fuel and Power

Water

The importance of developing water supplies for agricultural, domestic and industrial use in this land of few perennial rivers and uncertain rainfall is reflected in the Territorial Development Plan. The expenditure of two and a half million pounds is planned for the extension of township supplies in the period 1950-1956 and one and a half millions to be supplemented by increasing contributions from Native Authorities for the development of supplies in rural areas.

Running costs of all township supplies rose by £74,236, an increase of 39 per cent on 1952 and revenue increased by 21 per cent to £120,634.

A new supply at Musoma came into use during the year and improvements to supplies were carried out at Lushoto, Mwanza, Lindi, Mbeya and Iringa.

The expansion of the Water Development Department was approved and particular attention is being paid to the development of irrigation. An irrigation expert of the Food and Agricultural Organization paid a visit to the Rufiji Basin to produce recommendations for the acquisition of hydrological information of the river basin with a view to development of both irrigation farming and power resources there. The launching of two or three pilot schemes and the setting-up of twelve gauging-stations on the tributary streams and the main river has been recommended.

A Water Court Judge has been appointed and he has spent the period since his appointment in studying the workings of the water law in Southern Rhodesia and in drafting the appropriate regulations to the territorial water ordinance.

Fuel and Power

Apart from firewood and very limited hydro-electric generation, all power is derived from imported coal, petrol and oil. The Colonial Development Corporation completed its investigation of the coal deposits in the remote Songea and Njombe Districts but no attempt has yet been made to exploit the large deposits known to be there.

The cutting of firewood for sale or for industrial use is controlled by the Forest Department.

RETAINED IMPORTS OF PETROLEUM PRODUCTS

(in 1,000 gallons)

	Paraffin (retained imports)	Fuel Oils (retained imports)	Petrol (retained imports)
1938	1,607	2,138	3,065
1948	2,667	4,855	10,705
1950	2,024	*12,514	*13,367
1951	4,186	8,774	12,336
1952	4,515	11,223	13,283
1953	4,921	14,488	20,006

*New bulk storage installations were completed and filled.

Public Electricity Supplies

These are provided by two subsidiary companies of the East African Power and Lighting Company Limited, namely the Tanganyika Electric Supply Co. Ltd., which supplies a concession area contained within an imaginary circle of sixty miles radius centred on the Grand Pangani Falls Power Station and also exports power to Mombasa; and the Dar es Salaam and District Electric Supply Co. Ltd., which supplies Dar es Salaam and eleven other districts in the territory.

A new 5,000 kw. hydro-electric set was commissioned at the Grand Pangani Falls station, bringing the total installed capacity up to 7,500 kw., and work was commenced on a scheme to increase water storage. Restrictions previously placed on the export of power to Mombasa were removed and the Company was allowed to export up to the full authorization of 2,850 kw. measured at the station.

The Dar es Salaam and District Electric Supply Co. Ltd., commenced the installation of a second 2,000 kw. diesel generating set at Dar es Salaam and extensions were commenced at Morogoro, Dodoma and Arusha. Kigoma was converted to alternating current and a new 640 kw. station was commissioned at Mwanza.

Government Electricity Supplies

A new station containing three 30-KVA sets was commissioned at Kongwa. A small station was commissioned at Ukiriguru and work was in hand for small stations at Kasulu, Ilonga and Tengeru. A survey was carried out at Singida.

LAND

The policy of land utilization in the territory is based on the conviction that the vast undeveloped land resources can best be harnessed for the good of all the inhabitants of whatever origin, by a combination of the efforts of the African himself, with improved methods of cultivation and land utilization, and the assistance, stimulus and guidance afforded by non-African agriculture, working side by side towards a common goal. In 1953 demand for land continued keen, but the number of rights of occupancy granted was less than in the two previous years.

RIGHTS OF OCCUPANCY GRANTED

	Agricultural and Pastoral		Trading and Residential	Miscellaneous (Missions, Schools Factories, Labour Lines, Recreation Grounds, etc.)
	Long Term	Short Term		
1950	211 ...	27 ...	920 ...	253
1951	136 ...	11 ...	997 ...	304
1952	197 ...	6 ...	1,103 ...	347
1953	99 ...	7 ...	954 ...	306

Thirty new trading centres were established. New alienations for agricultural and pastoral purposes covered some 187,238 acres in all. Two rights of occupancy were granted to Africans for agricultural purposes. In addition to these rights of occupancy, 149 plots were allocated for the use of Government and High Commission departments; these included four plots acquired under the Land Acquisition Ordinance.

The total area over which rights of occupancy are now held is 2,109,995 acres which is about one per cent of the total land area of the territory. Registered freehold titles dating from the days of the German administration cover 452,247 acres.

The Land Utilization Board and the four provincial Land Utilization Committees have continued to advise on all matters affecting the development of land. The main responsibility for initiating schemes for the improved use of land is placed on these bodies.

LABOUR

A distinguishing feature of the labour situation is the relationship which exists between it and the vagaries of the East African climate. In the years when the rains fall when they are expected and harvests are generally good, there is usually a shortage of labour coming forward for wage-earning employment. Conversely, as in 1953, when the rains failed in many parts of the territory, the supply of labour was generally satisfactory.

From the point of view of productivity and efficiency it is apparent that the labour supply situation is likely to remain basically unsatisfactory in that it is liable to be affected by climate variations until the labour force is so developed as to contain a more substantial element of workers who normally derive their livelihood from stable and continuous wage-earning employment. The necessity to achieve this desirable condition is now generally recognized by employers, many of whom take such means as may be open to them, to encourage at least a nucleus of their workers to remain in employment over a period of years.

In 1953 a comprehensive statement of Government policy was issued on the subject of industrial relations. This policy, which was given wide distribution, stated the need to encourage the development in individual concerns of a simple form of joint consultative committees the creation of which, it was felt, would provide a practical means by which employers and workers could meet together for discussion of matters of common interest.

Labour legislation enacted during 1953 included The Dockworkers (Regulation of Employment) Ordinance which enables an Order to be made at any port applying a scheme providing *inter alia* for the registration of dockworkers and for other measures intended to ensure greater regularity of employment in this section of industry, and The Regulation of Wages and Terms of Employment (Minimum Wage Board and Wages Councils) Rules and The Regulations of Wages and Terms of Employment Ordinance (Application Order), which specified the rules of procedure to be followed by wages boards and wages councils and enables the provisions of the Ordinance to be applied to employment generally in the territory.

The Labour enumeration carried out in 1953 showed an increase of 4,674 in the number of Africans of both sexes in paid employment. The analysis of returns obtained is thought to be accurate to within minus two per cent with a total enumeration of approximately 448,000 Africans in employment on the day of enumeration. Non-native employment figures are not available for 1953.

As already described, the failure of the rains in many areas with a consequent restricted harvest provided a relevantly abundant supply of labour. However, shortages continued to be reported from certain areas of the Southern Highlands Province. These reports are under investigation as it is thought that this shortage might have been exacerbated by workers from these areas proceeding in increasing numbers to seek work in Southern Rhodesia and elsewhere where wages and other amenities are reported to provide attractive incentives to Africans from rural areas.

In Northern Province, demands for labour made through the Northern Province Labour Utilization Board are reported to have been met but towards the end of the year the Government decision to remove Kikuyu from this Province necessitated a review being made of the procedure to be adopted to secure the replacement of these workers by indigenous Africans.

Elsewhere no serious difficulties in obtaining labour were reported.

Plans have been made for the opening of two additional trade schools in other parts of the territory. Industrial and educational training is also provided by the industrial sections of certain Government and voluntary agency schools and by departments of both the Central Government and the East Africa High Commission services in agriculture, forestry, veterinary science, medical, hygiene,

printing and engineering and telecommunications. The scope of these establishments is indicated by the following figures of Tanganyika Africans in training during 1953 in some of the more important departmental schools:—

Medical Department	159	men
	194	women
Government Press	52	men
Posts and Telegraphs	84	men
East African Railways and Harbours	111	men

The classes and numbers enrolled at Government Trade School, Ifunda, at the end of 1953 were:—

Carpenters	152
Masons & Bricklayers	61
Painters	17
Plumbers	22
Welders	18
Turners	19
Blacksmiths	13
Tinsmiths	7
Electricians	40
Vehicle Mechanics	52
Tractor Mechanics	36
Tailors	16
Shoemakers	7
Total ...	460

Of these figures the first 272 trainees to leave the school will commence the two-year period of "on training" with suitable employers throughout the territory in January, 1954.

The Natural Resources School at Tengeru in the Northern Province has now been opened and students there will receive instruction in agriculture, forestry and veterinary science.

There was a continued general rise in wage rates during 1953 to keep pace with a rising cost of living.

The Workmen's Compensation Ordinance, 1950, has now been in force for four years and continues to operate satisfactorily.

The number of Trade Unions now registered in Tanganyika is six.

Sixteen Employment Exchanges were operating at the end of the year: through them 8,037 Africans including unskilled workers were placed in employment during 1953. Detailed figures are shown below:—

Tradesmen	Ex-Schoolboys	Unskilled
2,279	318	5,440

NUMBER OF AFRICANS IN PAID EMPLOYMENT

1945 ...	Partial enumeration	345,000
1947 ...	Partial enumeration	353,000
1949 ...	Enumeration (corrected figures) ...	424,000
1950 ...	Estimate	398,000
1951 ...	Enumeration	455,000
1952 ...	Enumeration	444,000
1953 ...	Enumeration	448,000

The total African population of Tanganyika based on the 1948 Census is now about 7,750,000.

The non-African population is now about 100,000.

INDUSTRIAL CLASSIFICATION OF AFRICAN WORKERS—AUGUST, 1953

Agriculture, Forestry Hunting and Fishing	226,601
Mining and Quarrying	17,730
Manufacturing	16,657
Construction	14,265
Electricity, Gas, Water and Sanitary Services (excluding local authorities)...	1,034
Commerce	11,743
Transport, Storage and Communications (excluding Government)	6,892
Services	12,674
Government, High Commission and local Authorities	103,037
Domestic service (not enumerated, estimated at)	30,000
Unclassified workers	7,638
	448,271

No differentiation has been made between casual and permanently employed persons.

Currency and Credit Facilities

The supply of currency is supervized by the East African Currency Board, established in London. Currency is issued or redeemed in Tanganyika, Kenya, Uganda, Zanzibar, British Somaliland and Aden, in which countries it circulates freely, against sterling payment to or by the Board in London of the face value, subject to a commission of one-quarter per cent either way.

The Board's assets have been built up to give full cover for the circulation: there is no fiduciary issue, and there is no power to vary the parity of the East African shilling.

Figures of circulation, although they do not apply to Tanganyika alone, are a useful indication of economic conditions, since depression or deflation results in a return of currency to the Board and boom or inflation in an increased demand for its issue. In 1953 there was a further large increase in the circulation. This, together with the evidence of cost of living statistics—which indicate increased prices, except for clothing, over 1953 as a whole—and of wage rates and local produce prices, shows that it is too early to speak of deflationary trends. 76 local public and private companies with an authorized capital amounting to £1,942,250 were registered during 1953. During the same period thirty-four foreign companies were also registered, but details of their authorized capital is not yet available. In 1952 157 new companies were registered during the year, with a nominal capital of £11,363,000 (in 1951 there were 177 new registrations, capital £18,063,000 and in 1950 122 new registrations, capital £14,530,000). But there are many indications that the rapid expansion of activity by commercial concerns and by Government, which has marked recent years, has abated and a period of stability and consolidation appears to have begun.

Most of the commercial banking in the territory is carried out by three banks incorporated in the United Kingdom. The existence of a branch of a Netherlands bank in Dar es Salaam is a sign of the interest of Holland in Tanganyika's trade. The levelling off of the spectacular increases in deposits and advances of the post-war years corroborates other evidence of the stabilization of the economy. In the absence of facilities for holding liquid assets in local investment, and because of the need to keep sterling balances available in London for ready transfer to the Currency Board, the banks hold a major part of their assets in the United Kingdom.

The Post Office Savings Bank provides facilities for small depositors. The balance on deposit continues to grow.

The Land Bank has been in operation since 1st October, 1948, to provide loans for agricultural purposes on the security of land or chattels. The maximum amount of any loan is £10,000: but the maximum is further restricted to 70 per cent of the value of land or 75 per cent of the value of chattels: long-term loans may be made for up to fifteen years, and short term up to five years. The number of outstanding loans at the end of 1953 was 279 and the sum advanced £443,782.

The Local Development Loan Fund makes short-term loans for agricultura purposes to individual Africans or Native Authorities without necessarily requiring mortgage security and at a low rate of interest (usually two and a half per cent). The number of outstanding loans at the end of 1953 was forty-six and the sum advanced £39,891.

The Central Native Treasury Board receives on deposit the surplus balances of all Native Treasuries and makes loans from its funds to Native Treasuries to finance capital works. The total deposits at the end of 1953 amounted to £585,691 and the total of loans outstanding £65,856.

An Urban Housing Loan Fund was set up by Government from which loans will be made to Africans to enable them to build houses of permanent materials in urban areas. Interest will be at prevailing bank rates. No loans have as yet been made from this fund.

The Mining Loan Board had two loans, amounting to £975, outstanding at the end of 1953.

A Saving and Loan Society operates in Kenya, Uganda and Tanganyika to afford investment facilities at a fixed rate of interest with easy conditions of withdrawal, and to provide loans for the purchase or erection of houses. The Society is a subsidiary of the Pearl Insurance Co. The total sum advanced in the three territories now stands at approximately £1,000,000. The emphasis is upon loans to owner-occupiers but capital is also provided for commercial housing schemes.

Various self-help societies and trusts provide credit facilities for the members of particular religious brotherhoods. But there is no internal money or securities market even of a rudimentary nature, and it is still true that funds for large-scale activities cannot be raised locally.

	Currency in circulation in East Africa £		Post Office Savings Bank Deposits £
1938	6,500,000	1938	121,000
1948	20,195,000	1948	1,285,000
1950	26,249,000	1950	1,784,000
1951	35,927,000	1951	1,994,000
1952	44,791,000	1952	2,092,000
1953	46,234,000	1953	2,125,000

COMMERCIAL BANKS IN TANGANYIKA AND ZANZIBAR

POSITION AT 31ST DECEMBER — £'000

	1938	1948	1950	1951	1952	1953
Liabilities:						
Deposits	1,799	12,941	17,539	20,064	21,189	23,049
Balances due to other Banks	1,066	385	1,953	2,613	1,815	2,945
Other Liabilities	45	87	199	442	539	574
Assets:						
Cash	459	850	1,297	1,562	1,979	1,762
Balances due from other Banks	896	10,637	12,850	13,836	14 855	16,691
Loans for Industry	–	425	1,031	2,085	1,079	2,574
Loans for Agriculture	1,555	184	1,219	2,022	1,803	1,946
Other Assets	–	1,317	2,424	3,614	3,827	3,595
Total ...	2,910	13,413	18,791	23,119	23,542	26,568

PUBLIC FINANCE

The central Government budget in 1953 was contracted slightly compared with that of 1952, largely as a result of the unfavourable agricultural conditions obtaining generally throughout the year.

In 1953 Income Tax became the largest source of revenue, earning over £4,209,000. The collection of Income Tax was more than double that of 1951 and showed an appreciable increase over the collection for 1952, and included considerable payments of arrears. The proceeds of the Sisal Export Tax continued to decline owing to the fall in market prices and during 1953 produced only £60,468. Revenue from import duties fell by £1,045,000 compared with 1952.

A loan of £4,410,000 was raised on the London market during the year bringing the total of the Public Debt at the end of December to £10,075,750. Reserves and the surplus balance amounted to approximately £11,000,000, two-thirds of which represents reserve tied to specific purposes (e.g. development, provident fund, sinking funds), while the remainder represents a safety balance. Reserve and surplus balance investments, amounting to some £7,000,000 are placed in London.

The Revised Development Plan put forward in 1950 to cover the period 1950 to 1956 originally proposed the expenditure of £24¼ million of which £9 million were to be loan money, £5¼ million Colonial Development and Welfare grants and £6¼ million territorial reserves and transfers from revenue (leaving a gap of £4 million). Expenditure for the years 1950 to 1953 was £16 million. The rising costs over this period was such that the full plan could not now be completed at the cost originally estimated. The loan raised during 1953 was largely designed to meet these increased costs.

The budget of urban local authorities, with the exception of the Municipality of Dar es Salaam, are included in the Central Government budget. A summary of revenue and expenditure of the Municipality, and of Native Treasuries in the past five years is included in the tables below:—

CENTRAL GOVERNMENT FINANCE

£'000

Revenue	Income Tax	Native Poll Tax	Import Duties	Export Duties	Excise Duties	Colonial Development and Welfare Grants	Other	Total
1947	644	806	1,849	78	446	135	1,801	5,759
1948	652	897	2,704	50	467	267	1,941	6,978
1949	1,097	962	3,150	93	557	566	2,727	9,152
1950	1,884	990	2,984	719	713	1,093	3,107	11,490
1951	1,973	1,132	3,469	1,419	756	1,175	3,182	13,106
1952	3,887	1,538	4,303	1,354	957	1,016	4,372	17,427
1953	4,209	1,723	3,258	143	1,011	58	4,326	14,728

Expenditure	Central and Provincial Administration	Local Government	Public Works Department	Education	Medical	Other Recurrent	Development Plan				Total
							Natural Resources	Communications	Building and Works	Other	
1947 ...	330	347	464	318	394	3,515	208	37	20	159	5,792
1948 ...	400	457	528	373	479	3,605	327	166	272	231	6,838
1949 ...	515	529	777	724	638	3,879	462	410	341	474	8,749
1950 ...	647	574	1,027	709	683	4,487	626	1,108	906	798	11,565
1951 ...	697	706	1,819	1,071	993	5,522	632	1,391	1,101	706	14,638
1952 ...	732	1,026	2,617	1,332	1,036	6,591	752	2,210	1,213	814	18,323
1953 ...	935	1,197	1,997	1,914	1,126	3,739	406	—	3,320	—	14,724

LOCAL GOVERNMENT FINANCE

DAR ES SALAAM MUNICIPALITY

£'000

	Revenue					Expenditure			
	Government Grants	Fees, Licences, Land Rents	Native Tax	Rates	Total	Administration and General	Roads and Works	Public Health	Total
1947 ...	–	–	–	–	(52)	–	–	–	(52)
1948 ...	–	–	–	–	(74)	–	–	–	(74)
1949 ...	41	45	15	11	112	29	24	47	100
1950 ...	47	52	17	37	153	42	47	52	141
1951 ...	62	63	15	59	199	54	88	76	218
1952 ...	55	82	30	97	264	53	64	103	220
1953 ...	77	78	27	110	292	79	94	115	288

	Revenue			Expenditure				
	Native Tax	Other	Total	Local Administration	Social Services	Natural Resources	Other	Total
1947	262	261	523	235	107	33	138	513
1948	306	274	580	283	122	44	76	525
1949	372	319	691	318	135	52	75	580
1950	369	346	715	355	153	64	78	650
1951	448	633	1,081	438	220	78	174	902
1952	661	869	1,530	645	426	127	94	1,292
1953	757	1,170	1,927	892	590	165	222	1,869

II.—PRODUCTION AND TRADE

AGRICULTURE

Production

The predominant aims of Tanganyika's agricultural policy are to attain self-sufficiency in food supplies and at the same time to expand production of cash crops for export.

Food production in 1953 was very seriously reduced over the greater part of the Territory by a severe drought, and it was necessary to import 54,380 tons of maize to meet territorial food requirements. The Central Province suffered most and in Ugogo extensive anti-famine relief measures were necessary. In the Northern Province the drought was one of the worst in living memory and all grain crops suffered severely. Minor food shortages occurred in some areas in most provinces.

Due to constant pressure for the planting of adequate areas of cassava, supplies of this crop lessened the severity of food shortages in many areas and a considerable surplus production in the Southern Province helped to reduce the amount of grain which would otherwise have had to be imported. Sales of maize, sorghum and millet at 23,500 tons were less than fifty per cent of the sales in 1952. Despite a heavy bird attack in the Western Kilimanjaro area, and low rainfall in the Oldeani area, wheat production only slightly declined, while rice showed a slight increase.

There has been a growing tendency for maize and rice to become the major staple foods of the African, even in areas where rainfall is not certain enough to produce a maize crop. A changeover to sorghum production in such marginal areas is being encouraged and the breeding of new short-term sorghums, with good storage properties and palatability is well advanced at Ukiriguru Agricultural Station.

In relation to suitable land and water supplies the present production of rice should be capable of very considerable increase. Production depends very largely on the extent of riverine flooding, heavy floods often having disastrous effects. Much attention is therefore being given to methods of increasing rice production in suitable areas, but before there can be any appreciable increase it is essential that hydrologic and soil surveys be made. A preliminary survey of the Rufiji Basin, which covers 68,500 square miles, has been made by a land

and water use expert of the United Nations' Food and Agriculture Organization. As a result proposals have been made for a detailed survey and the gathering of essential hydrologic data as well as for certain pilot schemes.

Small-scale irrigation projects are under consideration or construction in several parts of the territory. The possibilities of large-scale mechanized production of rice are also under investigation, with promising results, and are referred to among the reports of individual development schemes.

The production of African food crops should be capable of increase by the application of mechanized aids. Large-scale pilot schemes are in being both in the Rufiji Valley for rice production, and in the Lake Province for sorghum, millet and cotton production. The economic balance between hire charges, costs and tractor usage has not yet been found, but experience is showing certain basic requirements for the success of such schemes. There has been further development of the provision of mechanical aids to Tenant Farmers on Overseas Food Corporation farms at Nachingwea.

Methods to bring about increased production of all major crops are under constant investigation at agricultural stations and in the field. A wide programme of experimental work has been carried out, including trials of organic manures and fertilizers with a number of crops, crop rotations, agronomic trials including cultivation, spacing and time of planting, and the control of major pests. A study of the reclamation of saline soils by leaching and drainage has been started in the Tanga Province. As a result of trials of fertilizer with cotton at Ukiriguru, fertilizers were applied to 3,000 African cotton fields in the Lake Province with most encouraging results. A Colonial Agricultural Insecticide Research team had started work at Ilonga, their major task being the investigation of chemical insecticide control of American Bollworm in cotton. In view of the widespread and serious damage to grain crops by a species of weaver bird, investigation of their habits and methods of control has been started.

With but few exceptions the production of export crops also suffered considerably from the drought. The cotton crop in the Lake Province was reduced to a little more than a half that of 1952, yet the total of 38,600 bales did not compare unfavourably with the previous two years. The crop in the Eastern Province showed further signs of recovery. The territorial total cotton crop was approximately 50,000 bales. Copra, castor seed, groundnuts, pulses, sunflower and tobacco were all marketed in reduced quantities. The production of mild coffee was also very much lower than normal in the Northern Province, although native production in the Southern and Southern Highlands Provinces showed some increase.

Despite some adverse effect from the drought, the production of estate sisal reached a new record at 165,725 tons. African production of hedge sisal declined still further. The hard coffee crop in Bukoba District was a record at 11,000 tons and pyrethrum, papain, tea, sugar and export seeds showed some increase in production.

The Overseas Food Corporation suffered severely from the drought at Kongwa where only 205 tons of produce were harvested from 6,638 acres. Urambo and Nachingwea were not as badly affected, but yields were below average, groundnuts suffering particularly from a devastating attack of rosette.

The planted area was reduced by two-thirds at Urambo. Acreages planted at each centre are shown in the following table:—

	Groundnuts	Maize	Sorghum	Millet	Soya Bean	Tobacco	Other Crop	Total
Kongwa	2,458	3,138	1,042	—	—	—	—	6,638
Nachingwea	2,061	2,309	3,007	1,785	3,089	—	—	12,251
Urambo	258	2,160	2,373	2,442	1,035	389	3,068	13,725

A crop of eighty-four tons of flue-cured tobacco was harvested from Urambo. The quality was good and the further development of tobacco in the area is probable.

Marketing

While coffee prices reached new high records, and the prices of most export crops showed a slight downward tendency or remained about the levels at the end of 1952, the price of papain fell heavily and as a consequence production had practically ceased at the end of 1953. Price control was removed from groundnuts and sesame during the year, although the export of all oil seeds remained on licence. The market prices for maize, white sorghum, paddy and wheat continued to be fixed by Government, and cassava was brought under control due to the food shortage. Railhead prices are shown in the following table:—

	1951 Cts.	1952 Cts.	1953 Cts.
Maize and white sorghum (per kilo)	32	33	38
Wheat (Grade I) (per kilo)	50	50	58
Paddy (per kilo)	40	60	60
Cassava	–	–	18

The entire cotton crop was marketed by the Tanganyika Lint and Seed Marketing Board. While arrangements were made for the sale of the Lake Province crop by auction through the Uganda Lint Marketing Board, the Tanganyika Board through its agents, auctioned the Eastern, Southern, Northern and Tanga crop in Tanganyika. All cotton seed surplus to planting requirements was also auctioned by the Board.

A feature of the season was the development of co-operative cotton marketing in the Lake Province. The first stage, the formation of co-operative collecting societies, which receive seed cotton at their own centres, bag it and forward it to ginneries, was given encouragement and assistance in several ginnery zones.

With the exception of coffee produced by the Meru Native Coffee Growers' Association, which was sold to the Ministry of Food at a fixed price, all native produced mild coffee was sold by auction at Moshi through two agencies. The Kilimanjaro Native Co-operative Union handled the crop grown by its societies on Kilimanjaro while the Tanganyika Co-operative Trading Agency handled the crop from all other parts of the territory.

The production committees in the Arusha, Moshi, Mbulu, Iringa, Morogoro, and Kilosa Districts continued to operate. As a result of the severe crop losses due to drought Guaranteed Minimum Return payments to farmers reached the very high figure of £81,000, more than the total payment for the years 1947-1952.

The following tables show the sales of foodstuffs on local markets and the export of agricultural produce for 1953:—

Marketed Quantities of foodstuffs:	1951 Tons	1952 Tons	1953 Tons
Maize, millet, sorghum	68,166	49,484	23,480
Cassava	11,594	29,277	12,309
Wheat	5,569	5,264	4,924
Paddy	21,952	15,639	16,629

	Maximum Output for Export prior to 1953		1951	1952	1953	Total Value for 1953
	Year	Tons	Tons	Tons	Tons	£
Sisal	1952	156,167	142,106	156,167	171,151	12,773,839
Cotton Lint	1941	13,106	8,315	11,105	14,749	4,827,244
Coffee	1952	18,619	16,565	18,619	15,239	5,818,836
Hides and Skins	1950	5,471	4,023	3,894	5,536	1,652,480
Barley	—	No figures available	—	88	—	—
Beans and Pulses	—	No figures available	10,638	23,184	10,551	571,891
Beans, Soya	—	—	—	—	674	29,381
Beeswax	1948	905	673	599	672	259,950
Cashew Nuts	—	—	8,165	11,506	11,358	474,600
Castor Seed	—	No figures available	7,570	12,345	11,754	665,527
Cassava	—	—	6,342	15,177	561	9,834
Copra	1928	9,318	—	5,505	1,083	60,255
Fats	1944	1,247	123	79	69	4,317
Gum	1944	2,567	1,788	575	1,384	104,531
Ghee	1942	1,385	4	53	6	1,294
Groundnuts	1936	22,784	3,499	9,435	1,088	68,634
Honey	1948	—	—	—	—	—
Kapok	—	No figures available	381	468	838	174,383
Maize	1952	8,353	559	8,353	234	3,590
Millet and Sorghum	1928	7,732	4,137	2,767	1,958	59,678
Mangrove Bark	1942	7,291	828	967	354	6,563
Onions	1948	2,418	446	187	187	7,204
Palm Kernels	—	No figures available	334	374	578	29,284
Papain	1948	130	18	43	83	265,490
Pyrethrum	1945	697	149	156	155	46,628
Rice	1938	17,965	151	343	3	211
Rubber	1944	1,314	20	2	—	—
Sesame Seed	1938	5,241	22	496	343	19,144
Sugar	1941	5,454	5	10	1	77
Sunflower Seed	1952	17,708	9,512	17,708	6,180	202,389
Tea	1952	1,011	821	1,011	1,122	332,068
Tobacco	1948	1,421	781	641	333	67,284
Vegetable Oil	1940	2,268	130	685	1,063	103,313
Wattle Bark	—	No figures available	1,318	979	2,009	48,737
Wheat	1945	4,511	—	—	—	—
Essential Oils:						
(a) Lemon Grass	No figures available		2	2	(g)	117
(b) Orange Oil			4	(d)	3	6,162
(c) Geranium Oil			–	(e)	–	–
(d) Others			–	(f)	(h)	253
Total			229,429	305,523	261,319	28,694,188

(Fractions of Tons omitted); (d) 2,160 lb.; (e) 131 lb.; (f) 563 lb.; (g) 408 lb.; (h) 330 lb.

Fisheries

Sea

Due to delays in delivery of essential equipment the refitting of the Government motor fishing vessel *Patoni* was only completed at the end of December, 1953. Surveys of fishing methods along the coast, and the seasonal occurrence of economic species of fish continued.

Lakes and Rivers

Although the weather was not favourable to fishing during the dry season, the export of dried "dagaa" from the Lake Tanganyika fisheries showed a slight increase on that for 1952. The Lake Rukwa fishery remained open during the year, despite low lake levels, and an average crop of *Tilapia* was harvested.

The most remarkable development in the Lake Tanganyika fisheries was the rapid adoption of 300 c.p. pressure lamps by the dagaa fishermen, after demonstration and propaganda by the Fisheries Officer. These have now largely replaced the previous expensive wood fuel, from one species of tree, which was rapidly becoming more difficult and costly to obtain. The use of lamps has given better catches and has proved very much cheaper in operation. Experiments have shown that the use of nylon or other synthetic fibre for net-making gives a more efficient and more durable net.

A preliminary survey of the River Kilombero fisheries indicated that this river appears to carry abundant stocks of fish, but exploitation is to some extent limited by the annual floods, high crocodile population and the system of native fishing rights.

Fish Farming

At the fish farming station at Korogwe experiments continued in farming fish in association with rice growing with some promising results. Two larger ponds were built to ascertain costs of construction and to observe the effect of larger ponds on the size of fish.

Livestock

The stock population figures for the territory again showed a rise over previous years' estimates, but as the Central Province livestock were counted early in the year before the severe drought, which resulted in a number of deaths and increased sales, it must be appreciated that the actual numbers at the end of 1953 were perhaps 200,000 head less than the figure given. The estimated numbers compared with the previous year are as follows:—

	Cattle	Sheep	Goats
1952	6,552,000 ...	2,508,800 ...	3,531,700
1953	6,605,300 ...	2,783,300 ...	3,719,500

Culling orders were again issued in most overstocked districts and with the exception of the Lake Province where sales were poor, all provinces recorded increased sales over the previous year. All cattle and small stock continued to be marketed by auction at Native Authority livestock markets and the greatest numbers of both cattle and small stock ever sold in the territory passed through the markets during the year. Final figures were 311,474 head of cattle and 181,464 head of sheep and goats. The average market price for all categories of stock remained relatively stable as a result of the steadying influence of Tanganyika Packers Limited, who bought at a standard price per 100 lb. liveweight. This firm purchased 86,686 head for their Dar es Salaam and Arusha factories.

As a result of the drought conditions and following on the increased sales of livestock, considerably larger quantities of both hides and skins were exported as compared with the previous year. Total exports and values were as follows:—

Hides:	lbs.	£
Dry	7,702,657 ...	885,603
Wet salted	2,236,167 ...	151,204
Sheepskins	668,226 ...	67,008
Goatskins	1,501,977 ...	318,936
		1,422,751

New legislation was enacted during the year designed to improve hide quality and to protect the producer by compelling the buyer to purchase on grade and to comply with certain standards of premises, general knowledge of the trade and methods of storage. The campaign to encourage suspension drying of all hides and skins continued to make headway though the actual percentages of hides exported was much the same as for the previous year due to the large numbers of "fallen" hides coming forward.

The drought had a considerable effect on the clarified butter and ghee industry as the operating season was comparatively short in many districts. The total production shows a decrease of 334,647 kilos of butter fat and a decrease of £69,000 in the total value as compared with 1952. Quality was well maintained and the percentage of clarified butter to all other grades of ghee was 75·96 per cent as compared with 76 per cent in 1952.

The problem of supplying milk to urban areas was far from being solved satisfactorily, but some progress was made in surveying land in tsetse bush on the Ruvu River some fifty miles from Dar es Salaam with a view to opening up this area for dairying. All coastal townships are surrounded by tsetse infested bush and water supplies are often inadequate. A small Government dairy was almost completed at Mtwara by the end of the year and the first cattle had arrived. European farmers in the Northern and Southern Highlands Provinces continued to build up dairy herds and were showing considerable interest in poultry.

Forestry

Government's forest policy lays it down that by 1962 eight per cent of land and swamp area of Tanganyika (or seventeen and a half million acres) should be reserved as forest and that by the same date 40,000 acres of Forest Department plantation should be established.

During the year approximately 385 square miles, including 1·7 square miles of Native Authority forest reserves were added to the forest estate, which now covers 11,330 square miles or 3·3 per cent of the land area of the territory. Forest Department plantations were increased by 2·053 acres to a total of 14,128 acres and another 555 acres were planted by Native Authorities.

The Colonial Development Corporation continued its wattle planting programme at Njombe, sowing 6,840 acres to bring the total to 23,790.

The commercial output of timber in 1953 was 54,000 cubic tons of which approximately 16,130 tons were exported. The total value of timber exports, including those to Uganda and Kenya, was £473,180. Exports of minor forest

produce were valued at £289,000, and of mangrove poles at £22,000. Timber price control was abolished early in the year and no marked change in internal prices occurred.

Seventy-seven sawmills were operating, of which the largest producers were Kagera Sawmills Ltd. (6,450 cubic tons), Steel Brothers Ltd. (5,750 cubic tons), and Grewal Sawmills Ltd. (4,450 cubic tons).

Mining

Unlike some of the earlier post-war years, 1953 was not remarkable for any outstanding events in the development of the local mining industry. The period may best be described as one of stock-taking and consolidation. In the face of falling markets and a diminishing gold premium, a recession in prospecting activities was noticeable and in some cases operations of this nature were suspended or brought to a close.

With the established mines the picture was different. Steady development and expanding production was the general key-note. Although it has not yet been possible to finalize figures for the year, the value of mineral production (as distinct from exports) is likely to be close on the £4 million mark. This sets a new high record for minerals produced. Increases were recorded in the case of diamonds, gold, gypsum, kaolin, lead concentrates, waste mica, salt and silver.

Exports provisionally valued at approximately £3½ million were made. This is £2 million less than in 1952 when figures were heavily inflated by the shipment of nearly two years' backlog of production by Williamson Diamonds Ltd.

A comparative table showing details of exports and local sales of the principal minerals for the years 1951, 1952 and 1953 is attached.

Diamonds

At Mwadui Mine, Shinyanga District, the installation of new plant by Williamson Diamonds Ltd. to increase the quantity of diamondiferous gravel treated to 7,500 tons in twenty-four hours continued. The plant is scheduled to come into operation about the middle of 1954. To provide an additional water supply a new dam was constructed with a capacity of 1,800 million gallons. The principal mining unit will be a six cubic yard electrically-driven walking dragline. Concurrent with new plant construction diamond production was increased by some 30,000 carats over the output in 1952. At the neighbouring mine of Alamasi Ltd. output was slightly lower than in 1952.

Gold

The upward trend in gold production, though slow, was maintained in 1953 and exports in terms of fine gold were 5,193 ounces higher than in the previous year. Increases, albeit small, were recorded from all gold producing areas with the exception of Kahama District where the only producer suspended operations, and Musoma District where the quantity just failed to reach the previous year's level. The efforts of the local gold mining industry not only to keep going but to increase production in face of the difficulties which beset it are a matter for congratulation.

The first sod was cut for the shaft at the first new gold mine to be developed in Tanganyika for a number of years. This occurred at Kiabakari Mine in Musoma District where New Consolidated Gold Fields Ltd. and the Colonial

Development Corporation are operating in partnership under the name of Tangold Ltd., a locally incorporated company. The outcrop was worked for a time on a small scale in pre-war days by Kiabakari Mines Ltd. The property was acquired by the Colonial Development Corporation in 1952 and is now to be developed in depth and a pilot treatment plant installed.

Total gold sales at premium prices amounted to 68,174 fine ounces which realized 2,484,811 American dollars. The equivalent in sterling received by producers averaged £12 19s. an ounce. The previous year's average was £13 6s. 3d. By November, the premium market had virtually disappeared.

Lead

Exports of lead concentrates by Uruwira Minerals Ltd. from the pilot plant at Mpanda Mine were stepped up from 4,837 tons in 1952 to 6,174 tons in 1953. Construction of the new treatment plant with a capacity of from 1,000 to 1,500 tons of ore a day was undertaken and is progressing well despite shipping delays and other set-backs.

Mica

Exports of sheet mica and "splittings" fell from 107 tons in 1952 worth £142,674, to seventy-eight tons valued provisionally at £106,312. Of this quantity just under fifteen tons valued at £25,092 were consigned to the U.S.A. The decrease in tonnage exported was largely due to contraction of the market for the smallest sizes and poorest qualities. Fifty-one tons of waste mica valued at £261 were exported.

Tin and Tungsten

Production of concentrates in both cases was slightly less than in the previous year. The anticipated increase in output of tin (cassiterite) concentrates as a result of the entry of the Colonial Development Corporation into this field was not realized. Owing to the fall in the price of tin the Corporation curtailed operations. Similarly, the steep drop in the prices of tungsten minerals which, at the beginning of the year was around Shs. 400/- per long ton unit and had fallen to Shs. 155/- at the end, led to suspension of work by the chief wolfram producers.

Other Minerals

A trial consignment of twenty tons of kyanite was exported by an African prospector from claims in the Pare District, the first time this mineral has figured in the export list. Kenya, which so far has been the only market for locally-produced raw magnesite, took fifty-seven tons of this mineral, the first to be sent there since 1951 when 2,651 tons were exported. Gypsum is produced at Mkomasi, Lushoto District, for the Kenya and Uganda cement industries. The quantity exported in 1953 was 1,700 tons valued £4,282. Exports and local sales of salt amounted to 17,889 metric tons valued at £146,862—a new high record both in quantity and value. Exports of china clay amounted to 1,147 tons valued at £12,170.

The local china clay industry has experienced a serious set-back by the decision of the Pugu China Clay Co. Ltd., the only operators at present in this field, to go out of business. Some six years of painstaking research and experimentation which resulted in the building up of a pilot plant capable of turning

out a good quality refined product have thus come to an end. The mine is conveniently situated adjacent to the Central Railway only seventeen miles from the port of Dar es Salaam. The government is prepared to receive applications for re-leasing the property.

The output of building minerals—stone, gravel, sand and clay—declined somewhat. A trial consignment of nineteen tons of crude graphite was shipped to the U.S.A.; coal production for local consumption commenced on a small experimental scale from outcrop workings on a claim in the Rungwe District. Development of the coal deposits in the Songea and Njombe Districts awaits the establishment of railway communications: proved reserves in this region total 216 million tons with a further 40 million tons indicated and a gross tonnage of over 400 million.

Oil Prospecting

Under an oil exploration licence granted at the end of 1952 to the D'Arcy Exploration Co. Ltd. and the Shell Overseas Exploration Co. Ltd., jointly, a total of 21,080 square miles of the Tanganyika littoral was covered by aerial photography. Reflection, refraction, gravity and aerial magnetometer work was carried out by geophysical survey parties and sea-borne and land surveys made over a considerable area of the coast. Much attention was given to Mafia island and a decision reached to commence a deep test well on the island in 1954. The first of several diamond-drill holes for obtaining geological information was sited at Pugu, near Dar es Salaam and at the year-end had reached a depth of 347 feet.

Mining Titles

At the close of the year there were current fifteen exclusive prospecting licences in respect of areas totalling in the aggregate 995 square miles, one oil exploration licence covering approximately 22,000 square miles, and 1,921 mining claims and leases occupying a further 394 square miles.

Labour

Labour employed in prospecting and mining averaged approximately 502 Europeans, 241 Asians and 18,800 Africans per month.

MINERAL EXPORTS AND LOCAL SALES (DOMESTIC PRODUCTION).

Mineral	Unit	1951		1952		1953	
		Quantity	Value £	Quantity	Value £	Quantity	Value £
1. Building minerals	cu. ft.	18,374,611	195,251	19,058,612	171,724	16,499,899	219,359
2. Coal	long tons	—	—	—	—	43	32
3. Copper from auriferous concentrates	long tons	—	—	—	—	·062	12
3.(a) Copper from lead concentrates	long tons	134·53	53,256	252	71,710	*	*
4. Diamonds	metric carats	8,588	88,953	331,473	4,046,578	170,529†	1,834,761†
5. Gold (refined) from bullion	troy oz.	65,583	819,660	64,693	850,268	69,876	903,860
5.(a) Gold (refined from auriferous concentrates	troy oz.	—	—	—	—	10	133
5.(b) Gold (refined) from lead concentrates	troy oz.	814	10,613	2,738	36,163	*	*
6. Graphite (crude)	long tons	25	669	—	—	19	475
7. Gypsum	long tons	—	—	495	1,239	1,700	4,282†
8. Kaolin	metric tons	158	1,539	260	2,946	1,223	12,981
9. Kyanite	long tons	—	—	—	—	20	320
10. Lead (metallic, in concentrates)	long tons	1,537	305,840	2,371	230,974	*	*
10.(a) Lead Concentrates	metric tons	‡	‡	‡	‡	6,174	487,105†
11. Lime	long tons	6,185	22,981	6,577	25,266	6,479	24,813†
12. Magnesite	long tons	2,651	17,152	—	—	57	143†
13. Mica: sheet	long tons	69	119,552	107	142,674†	78	106,312†
13.(a) Mica: ground	long tons	—	—	15	254	—	—
13.(b) Mica: waste	long tons	—	—	1	19	51	261
14. Phosphate	long tons	340	2,023	99	842	149	726
15. Salt	metric tons	16,107	131,095	16,101	132,804	17,889	146,862
16. Silver (refined) from bullion	troy oz.	36,371	11,629	35,900	10,989	41,234	12,701
16.(a) Silver from auriferous concentrates	troy oz.	—	—	—	—	346	102
16.(b) Silver from lead concentrates	troy oz.	77,273	26,409	135,212	40,981	*	*
17. Tin concentrates	long tons	92	67,864	63	44,571	62	34,994
18. Tungsten concentrates	long tons	39	60,273	36	45,371	31	25,751†
Total Value (Exports and Local Sales)		—	1,939,759	—	5,875,373	—	3,815,985

LOCAL SALES (Extracted from above)

1. Building Minerals §	cu. ft.	18,374,611	195,251	19,058,612	171,724	16,499,899	219,359
2. Coal	long tons	—	—	—	—	43	32
3. Diamonds	metric carats	—	—	129	387	—	—
4. Kaolin	metric tons	111	1,032	134	1,576	76	811
5. Lead concentrates	metric tons	0·05	7	—	—	—	—
6. Lime	long tons	5,995	22,131	6,407	24,426	5,650	22,205
7. Mica	long tons	0·0053	12	—	—	—	—
8. Phosphate	long tons	340	2,025	99	842	149	726
9. Salt	metric tons	12,237	95,599	11,618	90,531	12,260	91,484
Total Value (Local Sales only)		—	316,057	—	289,486	—	334,617

*Not yet available; †Provisional: Some Account Sales outstanding. ‡Expressed in terms of metal content under items Nos. 3 (a), 5(b), 10 and 16(b); §Excluding production from Government quarries.

NOTES:—Gold, Silver, tin, tungsten, lead and copper exports are valued at the gross amount realized before deducting any charges.
Salt and gypsum are valued ex works or f.o.r.
Diamonds are valued in accordance with valuation for royalty by the official valuers to the Government.
Mica (sheet, ground and waste), magnesite, kyanite and graphite are valued c.i.f.
Building minerals, coal, lime and phosphate are in most cases valued ex works.
Kaolin is valued f.o.r. or f.o.b. Dar es Salaam.

Geological Survey

The work of the Department of Geological Survey progressed steadily along normal lines. Efforts were concentrated in areas where results were most urgently required, such as the inland areas of the coastal sediments, with a view to the possible expansion of the search for oil, and areas along routes which new railways may some day follow, or from which they may derive freight.

During the year, some less spectacular industrial raw materials were investigated in areas which are accessible by existing or proposed transport systems. Instances of these are—kyanite, magnesite, gypsum and garnet on the Tanga railway; building and cement materials, garnet, corundum and salt on the Central railway line.

Among the more interesting activities of the Department were the investigation of Kilimanjaro Mountain and the examination of several occurrences of pyrechlore which are being subjected to detailed investigation and extraction tests: this little-known, but important material, has recently commanded interest because of its high content of columbium metal, which is used in alloy steels required to withstand high temperatures and stresses, such as in jet aircraft engines.

Field and laboratory examination has also continued of occurrences of radio-active minerals in various parts of the territory—so far without spectacular results.

In addition to purely geological work, the Department has assisted in the assessment of soil types, the investigation of water supplies and experiments in local building materials.

Industry

Trading conditions in 1953, due to poor harvests consequent upon inadequate rain, and world influences, were less bright than in 1952. Industry, however, came through the year comparatively unscathed, and was able to consolidate its position. New industries, mainly on a small scale, were established and additional factory units are now producing canned meat, fruit, fruit drinks, aluminium ware and round and flat iron bars. A large cold storage plant began to operate in Dar es Salaam.

There was progress in the processing of locally-produced crops; two new tea factories were opened, and in the Southern Province an estate began the propagation of cassava on a plantation scale with a view to the manufacture of starch locally. It is also probable that a factory or factories will be erected for the processing of cashew nuts, of which, 9,125 tons were exported in 1952 in their unprocessed state.

The sugar factory in the Northern Province was enlarged in order to cope with the expected increase in the production of cane in 1954, and a well-known concern began the investigations into the possibilities of sugar cultivation on a large scale and of the establishment of a refinery. Muscat cloth and cotton piece goods were produced in the textile factory at Moshi in sample quantities, and it is expected that full-scale production will begin in 1954.

The East African Industrial Licensing Ordinance, 1948, the working of which had proved to be unsatisfactory, was replaced by a new ordinance, and the manufacture of soft fibre, other than cotton and flax, and of steel drums was added to the schedule.

No further progress was made in the establishment of a cement factory, either at Tanga or at Dar es Salaam, owing to siting and other difficulties, but interest in the project continues to be shown.

All factories are required to be registered under the Factories Ordinance. The establishments so registered in 1953 were as follows:—

INDUSTRIAL ESTABLISHMENTS

Industry	Number of Factories			Numbers Employed
	With Power	No Power	Total	
Aerated Water Manufacture	29	18	47	318
Agricultural Plant Maintenance and Repair	60	–	60	799
Aircraft Maintenance	2	–	2	18
Aluminiumware Manufacture	2	–	2	22
Bacon Factories	4	1	5	48
Bicycle	1	15	16	29
Boat building and repairing	5	–	5	686
Bread and Flour Confectionery	23	38	61	543
Breweries	1	1	2	319
Brick and Tile Making	6	2	8	419
Can Manufacture	1	–	1	218
Chemical Products Manufacture	1	–	1	16
Coffee Curing	4	–	4	667
Coffee Pulping	43	17	60	483
Copra Drying	2	2	4	30
Cotton Ginning	35	–	35	2,393
Cotton Weaving	1	–	1	28
Crop Processing	7	–	7	433
Dairy Produce	1	1	2	34
Dry Cleaning	4	2	6	42
Edible Oil Refining	4	–	4	69
Electrical Repairs	11	–	11	195
Electrical Power Generation	20	–	20	624
Electro Plating	1	–	1	7
Engineering General	44	1	45	2,315
Essential Oil Extraction	4	–	4	35
Fez Cap Manufacture	–	4	4	10
Fish Curing	1	–	1	78
Flour Milling	174	–	174	1,471
Food Canning	4	–	4	833
Fruit Drinks Manufacture	3	2	5	49
Hides and Skins Processing and Baling	4	24	28	398
Ice Manufacture	9	–	9	104
Industrial Gas Manufacture	2	–	2	46
Jaggery Manufacture	34	–	34	419
Jewellers and Goldsmiths	2	21	23	96
Kapok Ginning	7	–	7	142
Laundries	2	2	4	24
Leather Goods Manufacture, etc.	3	–	3	46
Letterpress printing	20	2	22	651
Locomotive and Rolling Stock Repairs	10	–	10	2,540
Mica Cutting and Grading	–	3	3	214
Milk Pasteurising	1	–	1	3
Motor Vehicle Repairs	115	17	132	2,806
Paint Manufacture	1	–	1	51
Papain Manufacture	1	1	2	22
Petrol, Oil and Lubrication Packing	3	–	3	384
Pharmaceutical Manufacture	1	–	1	13
Photographic Development and Printing	8	1	9	30
Pre-cast Concrete Works	7	3	10	225
Pyrethrum Drying	1	–	1	16
Rice Mills and Hulleries	64	–	64	732
Rubber Processing	2	–	2	13

Industry	Number of Factories			
	With Power	No Power	Total	Numbers Employed
Salt Works	4	–	4	62
Saw Mills	77	1	78	3,796
Sewage Pumping	2	–	2	9
Sheet Metal Work	2	14	16	69
Ship Breaking	1	–	1	31
Shoe Making and Repairing	–	89	89	270
Sisal and Sansevieria Processing	217	1	218	20,254
Soap Manufacture	21	21	42	459
Sugar Confectionery	2	–	2	21
Sugar Manufacture	1	–	1	370
Tailoring and Dress Making	27	634	661	1,572
Tanneries	2	–	2	71
Tea Manufacture	9	–	9	747
Textile Dyeing and Printing	2	–	2	76
Tobacco Processing	6	4	10	1,179
Toilet Goods (other than soap)	–	3	3	12
Typewriter and other repairs	2	3	5	15
Tyre Re-treading	1	–	1	37
Vegetable Oil Extraction	71	–	71	1,214
Water Supply	68	–	68	375
Woodworking—General	182	36	218	3,230
Wrought Iron Works	5	1	6	64
Watch Repairing	2	2	4	8
	1,499	987	2,486	56,147

Internal and External Trade

The pattern of internal and external trade in 1953 was largely determined by two factors, the fall in the price of sisal and the failure of the rains, as a result of which the gross volume of external trade fell from £91,856,000 in 1952 to £71,117,000 in 1953. Exports, including exports to Kenya and Uganda, fell by nearly £11,000,000 and imports, including imports from Kenya and Uganda, by £8,000,000. Exports of sisal, which are normally at least 40 per cent in value of total domestic exports, amounted to the record total of 171,367 tons, valued, however, at only £12,673,000 compared with the 158,367 tons exported in 1952 valued at £21,727,000.

Owing to the widespread lack of rain, the harvest of staple foodstuffs was poor, so that maize had to be imported from overseas at high prices. Money, therefore, which in a normal year would have been spent on consumer goods, was spent instead on food. Merchants, many of whom had over-stocked in the boom of the previous year, had some difficulty in selling their goods—many could only do so at a loss—money became scarce and credit restricted. In spite, however, of these difficult trading conditions, the number of merchants who could not meet their commitments was small.

It was, and continues to be, the policy of Government to remove restrictions of trade wherever possible, and by the end of the year price control was virtually limited to essential foodstuffs, and sales control to American tractors and motor vehicles, and jute products. The restrictions on imports which was imposed in March 1952 for balance of payments reasons, was not relaxed to any major

extent, but licensing on Japan was re-opened (except for textiles), and a few items, such as beer, radio sets and cotton blankets, were placed on open general licence from O.E.E.C. countries. It is thought that import control did not affect trade adversely, since in any case commerce would have made voluntary cuts in imports owing to the bad trading conditions mentioned above. For the first time since 1939 items of major capital equipment became available "off the shelf" and although some deliveries remained slow, outstanding orders arrived in quantities sufficient to embarrass traders.

NET IMPORTS AND EXPORTS £'000

Classification of Imports	1938	1948	1950	1951	1952	1953
Machinery and Vehicles	706	7,066	7,946	6,828	10,114	7,468
Textiles	707	4,646	4,539	6,606	7,507	4,703
Base Metal Goods	322	3,225	3,601	3,907	5,711	3,641
Fuels and Lubricants	327	1,365	1,921	1,977	3,043	2,648
Non-metallic Minerals	154	792	1,391	1,855	2,284	1,871
Food, Drink and Tobacco	550	2,284	1,259	1,643	2,082	3,204
Clothing	170	727	893	1,594	1,611	1,046
Chemicals	111	557	714	1,049	1,471	846
Rubber	57	353	434	758	805	753
Paper	59	217	219	322	622	259
Wood and Timber	25	217	84	115	140	85
Hides and Leather	61	133	30	35	42	36
Fats and Waxes	–	59	6	11	23	22
Precious Metals	1	13	10	14	14	5
Gold and Specie	89	34	171	8	2	9
All Other Articles	198	955	1,124	1,399	2,024	1,831
Total	3,537	22,643	24,000	28,121	37,495	28,427

Classification of Domestic Exports	1938	1948	1950	1951	1952	1953
Sisal	1,425	8,930	11,846	23,690	21,708	12,742
Coffee	386	897	3,471	4,503	5,540	5,818
Cotton	380	1,328	1,443	2,767	4,679	4,827
Diamonds	4	1,040	1,371	89	4,607	2,100
Oil Seeds and Waxes	200	554	790	1,904	3,938	1,361
Other Food, Drink and Tobacco	423	1,620	1,320	2,074	2,734	3,096
Hides and Skins	202	499	1,387	1,680	1,056	1,655
Gold and Specie	589	503	890	831	861	917
Base Metals	50	53	140	407	752	581
Wood and Timber	21	146	342	490	339	426
All Other Articles	28	660	768	908	805	1,022
Total	3,708	16,230	23,738	39,343	47,020	34,545

Value of Imports from	1938	1948	1950	1951	1952	1953
United Kingdom	1,015	10,574	13,405	12,521	17,670	13,417
India	162	1,827	2,508	3,098	4,227	3,071
Japan	593	123	1,227	2,851	2,356	132
Germany	461	12	279	819	2,036	990
United States	242	2,961	1,528	1,066	1,647	2,023
Union of South Africa	60	880	963	1,102	1,194	1,895
Netherlands	106	–	502	753	1,141	962
Italy	15	485	522	1,024	1,015	728
Bahrein Islands	–	170	185	462	958	869
Belgium	46	649	122	858	731	258
Persia	–	719	1,122	637	46	4
Other Countries (including in 1952 all Parcel Post)	837	4,243	1,637	2,930	4,474	4,082
Total	3,537	22,643	24,000	28,121	37,495	28,427

NET IMPORTS AND EXPORTS—*contd.*

£'000

Value of Domestic Exports to	1938	1948	1950	1951	1952	1953
United Kingdom	1,198	8,471	9,973	15,958	19,672	13,893
United States	175	1,146	2,208	7,014	9,956	5,616
Germany	282	–	1,530	1,534	2,235	2,208
India	251	753	1,494	1,855	2,014	1,995
Australia	–	438	1,121	2,157	1,952	906
Netherlands	140	–	910	1,619	1,874	1,358
Belgium	389	–	681	2,431	1,766	1,480
Union of South Africa	83	710	1,262	1,278	1,351	1,019
Canada	–	1,235	572	1,052	755	639
Japan	15	–	851	70	233	452
Other Countries (including Ships' Stores) ...	1,175	3,477	3,166	4,375	5,210	4,979
Total ...	3,708	16,230	23,768	39,343	47,020	34,545
Value of Re-exports	361	950	1,286	1,003	954	1,399

£'000

	Visible Balance of Trade			
	Imports	Exports and Re-exports	Unfavourable Balance	Favourable Balance
1938	3,537	4,069	—	532
1948	22,643	17,180	5,163	—
1950	24,000	25,054	—	1,054
1951	28,121	40,346	—	12,225
1952	37,495	47,974	—	10,479
1953	28,427	35,944	—	7,515

NOTE:—From 1950 transfers between Tanganyika and Uganda and Kenya for internal consumption are excluded from the figures in these tables. Detailed information which would be needed to make earlier figures correspond precisely is not available, but as the figures stand direct comparison is invalidated only in a few instances.

APPENDIX I

THE DEVELOPMENT PLAN: PROGRESS REPORTS

Agricultural Development Schemes

Training of Agricultural Instructors, Ukiriguru.—Forty-four instructors of the Agricultural Department and eighteen teachers completed their two-year course. Thirty-eight instructors and twenty teachers completed their first year training and fifty-eight instructors and five teachers entered upon their training. Emphasis continues to be laid upon the practical as well as the theoretical side of the training of these instructors who will in their Districts, be called upon to demonstrate all forms of agricultural practice to their people.

Improvement of Copra Industry.—This is essentially a long-term scheme and has continued on the same lines as previously with the inspection of existing and the inculcation of better cultivation methods and a supply of selected seed. The three Field Officers employed on this scheme, while concentrating on the copra industry, also carry out the normal duties of Field Officers in the areas in which they are stationed.

Bukoba Coffee Sub-Station.—The capital works programme at the Marugu Station has been completed and investigations into the problem of soil fertility and management in the special conditions pertaining in Bukoba District has continued. The Government contribution is now limited to the Personal Emoluments of the permanent staff, the balance of the expenditure being met by the Bukoba Native Coffee Board.

Cotton Experimental Station, Ilonga.—Part of the costs of this station are met by the Empire Cotton Growing Corporation and the Lint and Seed Marketing Board. Work has continued on the improvement of the strain of cotton (47/10) developed for the Eastern Province, together with research into the control of American Bollworm. In addition, research has been carried out into the cultivation of foodcrops, the problems of soil fertility and soil management and particularly mechanized cultivation.

Improvement of Beeswax.—During the year the area covered by the activities of the Beeswax Officer and his instructors has been extended and their work has had a marked effect on the quality of the wax marketed.

Fisheries (Inland).—The work of the Fisheries Officer on Lake Tanganyika has led to an improvement in the methods being used by the local fishermen and in particular to the substitution of pressure lamps for the fires used as fish rules.

Fisheries (Marine).—The motor fishing vessel *Patoni* was refitted during the year while the Marine Fisheries Officer continued to carry out his extension work in coastal villages.

Food Production Farms.—Effort has now been concentrated in the Lupiro where the mechanized rice production project has made a very promising start having proved that mechanized production in conditions which prevail in parts

of the Kilombero is possible and profitable. Experiments to select a satisfactory strain of rice for combining have been started as have experiments with varieties of seed rates and fertilizers. During 1953, 361 tons of paddy were obtained from 385 acres despite a thirty-nine day drought immediately after sowing.

Agricultural and Natural Resources School, Tengeru.—This School was formally opened in April, 1953, and has started courses for instructors of the Natural Resources Departments and for teachers. The building programme was continued through the year.

Veterinary Development Schemes

Central Breeding Station, Mpwapwa.—Selective breeding at this station has now reached the stage where further purchases of cattle in quantity will not be required, line breeding from a most promising strain being in progress.

Northern Province Stock Farm.—Building on this farm was virtually completed during the year and the work of stocking up the farm was continued. A greater degree of integration with work on other breeding farms was achieved.

Demonstration Farm, East Kilimanjaro.—This farm was established to investigate the problems of animal husbandry development in the banana belt. It will not, however, form one of the continuing veterinary stations.

African Veterinary Training Centre.—The first two-year course with twelve students started in January, 1953. There is an annual intake of twelve students, consequently twenty-four students will be permanently resident. The school is run by the Chief Veterinary Research Officer and his staff.

Southern Highlands Stock Farm.—This farm, like the Northern Province Stock Farm, continued the breeding experiments in its area which are now designed to be closely integrated with those to be carried out at the Central Breeding Station.

Veterinary Centres.—Ten Veterinary Centres continue to be staffed by Veterinary Assistants paid for from the Agricultural Development Reserve during the year.

Pilot Ranching Scheme, Mkata Plains.—This scheme has now settled down as a well-founded development project but is still not entirely self-financing. During the year it has continued to stock up within the capacity of the grazing and wet season retreat areas. Production of baled hay continued.

General Local Development Schemes

Local Development Loan Fund.—In 1953 twenty-five loans were made totalling £3,670 and varying between £25 and £500. The tendency was towards smaller loans to individuals as opposed to the larger projects handled in earlier years. It was decided to fund the capital remaining from the original grant (£59,312) and it is hoped that this fund will be able to achieve its object indefinitely. As a result of the bad agricultural year, interest and capital repayment was postponed in a number of cases. No loans or interest payments were written off, but a few individuals have failed to use their loans for the purposes for which they were granted; pressure is being applied to recover the money, with varying

prospects of success. An unfortunate tendency is creeping in for individuals to plan for payment both of interest and yearly instalments from the original cash issue. This is being checked by the local Development Loan Fund Committee and a high proportion of loans are now approved for issue in instalments, subsequent issues depending on the results achieved initially.

Uluguru Land Usage Scheme.—During 1953 the emphasis changed in this scheme from administrative pressure to educational leading, and a far more lively interest in the work has been shown by the Waluguru themselves. As a result, the output has increased considerably and there is a strong probability of the principles of land usage which are now taught being accepted and absorbed into the tribe's traditional form of cultivation in the future.

The rate of terracing again increased during the year. Two new methods have been introduced in terracing work. Firstly, a primitive but accurate form of line level (manufactured for a few cents) has been issued to all instructors. Secondly, the actual work of terracing has been altered and now begins on the bottom terrace of the shamba, enabling the vegetation and top soil from the terrace above to be spread in each case on the terrace below. Trash bunds have been combined with contour ridges, catchment ditches, live barriers and lines of stones and, on gently sloping land, should become permanent. Hill burning has been greatly reduced in 1953. Water development investigations took place in the plains areas, which will prove of use to settlers from the hills as well as to present inhabitants. Initial investigation was made into the possibility of a large-scale irrigation scheme from the Mlali River.

Tree planting was undertaken on a somewhat smaller scale, as the large acreages handled in 1952 led to insufficient preparation with the result of a set-back in young seedlings. As a result survival rates rose sharply.

In general, 1953 was a year of considerable and encouraging progress, not only on the ground but in the improved attitude of the Waluguru to the work which they are undertaking.

Usambara Development Scheme.—Good progress was made in the hills section of this scheme. The number of Jumbeates now cultivating under Usambara scheme rules was increased to seventy-five as compared with thirty-eight in 1952. In general, ridging was successfully enforced but results varied in accordance with the support given to the scheme in sub-chiefdoms. The non-grazing order continues to be generally accepted and appreciated. It is said that the women (who do most of the cultivation) are the main supporters of this order and that they will not now allow stock on their shambas. It is necessary to withdraw land with a slope of over twenty-five degrees from annual cultivation. This is being done gradually by the taking of ten yards at a time for permanent planting, inter-planted for the first two years with annual crops. Over 1,000 people were recorded during the year as having no shambas under the twenty-five degree slope, and they are receiving special attention. Preliminary explanations of the means and methods of destocking have been continued in barazas. It is hoped to start in 1954. It is clear that encroachments by cultivators have produced such irregular boundaries as to make forest reserves unfit for gazetting. It has been agreed to realign the forest reserve boundaries on a principle of give and take.

Further examination of the proposed expansion areas in the lowlands encircling the mountain block have proved that soil salinity is unfortunately a major problem. It is now considered that irrigation without leaching would merely wash salt to the surface and that within a few years the land would fail to produce crops. In the Luengera Valley, however, successful salt leachnig experiments for rice cultivation have taken place and it is hoped to bring a considerable area under properly-designed irrigation control. A new possible expansion area has been found in the sparsely inhabited north-east corner of Handeni District. Representatives from both Handeni and Usambara Native Authority Councils accompanied Natural Resources officers and District Commissioners in a reconnaissance of this area. It is thought that it can be developed, if provided with water supplies and if tsetse fly can be eliminated. Technical examination of the possibilities continues and, if reports are favourable, some small pilot schemes will be initiated. Further discussions will take place on the political arrangements necessary if Wasambaa were to move into Handeni District.

In general, there has been an attitude of more open siding with the scheme; this advance will have to be maintained by the patient guidance and support of all concerned with the scheme.

Development of Sukumaland.—During 1953 plans were developed for the continuation of the work of the Sukumaland Development Scheme after the expiry of the funds provided under the Agriculture Development Reserve. It is expected that by tapering off expenditure and by a gradual increase in locally provided funds, much of the work now being done can continue. It was agreed, as one step, that the sub-provincial team should absorb the former development team.

Four D. 2 caterpillar tractors arrived during the year which enabled an increase in the construction of mechanically built dams. Five such dams were completed, with an aggregate capacity of 63 million gallons of water. Twenty-six hand-built dams were also completed with capacities ranging from half a million gallons to seven and a quarter million gallons.

Destocking continued but was not on the whole as successful as had been hoped. The stock population was reduced by 5·2 per cent as against 6·63 per cent in 1952. Work on the stock farm progressed satisfactorily, and it has now been decided that it is to be a permanent first order station under the control of the Director of Veterinary Services. Although the main agricultural feature of the year was lack of rain, food shortages were not so bad as expected and were mainly localized. With regard to cash crops, the rice acreage was down and the crop a partial failure. The cotton acreage was also down but the yield per acre was higher than expected, being 28,000 bales for Sukumaland, with a value to the grower of £876,000. Fish ponds were again disappointing and it appears that a good crop of fish cannot be obtained at the same time as a good crop of rice. Tsetse bush clearing, soil conservation by controlled grazing and opening up of development areas continued. It was noted that strict grazing control, combined with tie ridging, showed remarkable powers of recovery in Sukumaland soils, if only they are given a chance.

Irangi Development Scheme.—The object of this scheme which is the successor to the Kolo Rehabilitation Scheme is to reduce the animal and, to a lesser extent, the human population pressure in the Irangi highlands by the development

of expansion areas for human and stock population and to rehabilitate lands which have been partially destroyed. These highlands contain one of the worst-eroded areas in the whole territory. Fifty-eight square miles of land in the south-west of the district were made available for settlement during 1953.

In the expansion area bordering on Masailand, to the north-east, two successful and two unsuccessful boreholes were sunk and one remained unfinished; storage tanks, pipe lines and a surface dam were also built. About thirty miles of road were made. A district map on a scale of 1 : 100,000 was compiled, and detailed surveys completed of fourteen villages and about six square miles of agricultural land.

Compulsory destocking proceeded satisfactorily, 8,440 out of 9,829 cattle and 21,018 out of 26,493 small stock were sold; the second figure in each case is the target figure.

Extreme drought made water supplies for labour a very great problem and drove elephants into raiding clearing areas which should have been free of them.

Masai Development Plan.—As in most of Tanganyika, 1953 with little or no rain was a very poor year for Masailand. The Masai pasturalists were hard hit and it is thought that about 30,000 head of cattle died from starvation.

Good progress was made during the year in the drilling of boreholes (seven completed and three more surveyed), installation of pipelines (five completed) and in the construction of dams and hafirs. Difficulty with heavy earth moving machinery delayed the construction of large dams during the year, but two such dams were completed. Tsetse clearing was undertaken mainly by hand labour, the total labour force from outside the district amounting to 850. An area of about 400 square miles of excellent grazing land was opened up. The voluntary culling of cattle continued and the 1953 quota of 27,000 head was exceeded by over 2,000. Survey work of all kinds continued and plans were developed for continuation of the scheme when the allocation of £200,000 from the Agricultural Development Reserve is exhausted in the latter half of 1953.

Biharamulo—Ngara Development.—Over the passage of years and as a result of circumstances, these two districts had lost much of their human and economic stability. The effects of local superstition and witchcraft were strong and corrosive, food supplies and water supplies were precarious and tsetse fly ubiquitous. The loss of livestock, food and men has inevitably led to the encroachment of fly bush, the silting up of wells, a serious decline in food production and an increase in debility and disease.

It was to remedy this state of affairs and to aid the inhabitants in their struggle against what has been described as their "hostile circumstances" that the Biharamulo–Ngara Development Plan was inaugurated in 1951. The first need was, therefore, water supplies and to render the various concentrations and settlement areas more attractive by clearing back the encoaching bush, consolidating the water supplies and the introduction and maintenance of livestock.

Much value has already been obtained in the way of bush clearing and tsetse control, while the progress in improving village water supplies and in general local development has had considerable educational value. In most

of these projects voluntary labour has been provided by the local population and, with continued advice and relatively small expenditure on materials, resettlement, social services and social reforms will continue and should result in a more stable population.

Development of Natural Resources, Southern Province.—The object of this development scheme is the general raising of productivity in the Southern Province. This is being accomplished by a strengthening of agricultural staff; in 1953 five Field Officers (Agriculture), one Assistant Beeswax Officer and seventy-one African instructors were employed under the scheme. The rains were poor but nevertheless considerable progress was maintained. Produce exported from the province in 1947 amounted to 34,603 tons and by 1953 this total had risen to 68,500. Experiments and trials were continued at Mahiwa, where also instruction was given to the scheme's staff. Minor water development projects, in the main the sinking of wells, were completed in five districts and investigations into the possibility of tsetse reclamation were carried out in the Songea District. The production of cashewnuts continued to thrive and the flue-cured tobacco industry in Tunduru showed great promise. The exports of coffee from the Matengo Highlands of the Songea District rose sharply.

The deep-water berths at Mtwara and the Mtwara–Ruo railway line are due to be opened "under construction conditions" early in 1954.

Colonial Insecticide Research

Although the Colonial Insecticide Research Unit is based on Arusha and administered by the Tanganyika Government, much of its work is carried out elsewhere in East Africa. All expenditure is met from Colonial Development and Welfare Funds.

During 1953, aircraft spraying experiments were completed over an area of forty square miles, in about sixteen of which tsetse fly were concentrated. Virtual elimination was achieved at a cost of Shs. 35/- per acre treated. Over the whole forty square miles the cost was about Shs. 14/- per acre.

Other work was carried out on defoliants, arboricides, wall treatment against mosquitoes, agricultural pest control and assessment of sprays from aircraft. Some promising lines for field trials were developed in connection with dust and food control of grain-eating birds.

Geological Survey and Mineral Development

The balance of £20,000 remaining unspent from the Colonial Development and Welfare five-year scheme was revoted into 1953 and was used to cover the personal emoluments and administrative expenses of a proportion of the staff of the Geological Survey Department.

An organization is required to bridge the gap between mineral discoveries made in the course of routine geological mapping and the handing over of these to interested companies; and one has been planned to consist of several experienced mining geologists, and a small staff, and the help of the United Nations Organization Technical Assistance Scheme has been sought. In the meantime, progress has also been made by the special assigning of existing departmental staff.

The following listed projects were dealt with in the manner indicated:—

(a) Copper, Mpwapwa	Final Report
(b) Copper, Kigugwe	Re-mapped
(c) Garnet, Mpwapwa	Re-sampled
(d) Lead-copper, Western areas	Deferred
(e) Cement materials, Central Railway	Pitting and sampling over some 50 square miles.
(f) Manganese	One deposit found to be unpromising; another deferred.
(g) Corundum, Dodoma	Report in process of compilation.

Development of Rural Water Supplies

Nine earth dams and hafirs were completed having a total capacity of 307 million gallons. Eighteen gravity pipelines and twenty-three pumped and hydraulic ram supplies were installed with an output of 8,295,000 gallons per day. Thirty-two boreholes were successfully drilled with a total footage of 10,140 feet and with a tested yield of 355,464 gallons per day. Nine shallow wells with a total footage of 131 feet were constructed.

No windmill-pumped supplies were installed during the year.

Roads

Lindi–Mtama Road (38 miles).—Work by Road Construction Unit No. 1 was concentrated on the fourteen miles of new road from Lindi to Mingoyo. This section has involved heavy cuts and fills both in rock and earth. Eighty-five per cent of the earthworks to Mingoyo were complete together with three and a half miles of bitumen surface at the Lindi end.

Dar es Salaam–Morogoro Road (120 miles).—The forty-four miles section from Dar es Salaam to the Ruvu River was under the supervision of Sir Alexander Gibb & Partners. The 330-feet-long steel girder bridge over the Ruvu River was completed and bitumenization of the first twenty-seven miles was nearing completion, after being delayed by abnormally rainy weather. The presence of the mineral montmorillonite in many of the excavations between mile 5 and mile 22 was a source of anxiety, this mineral being undetectable by normal soil sampling methods.

Towards the end of the year a further contract was let to Messrs. Stirling Astaldi, who are the contractors for the two main sections, for the bituminization of the remaining seventeen miles to Ruvu Bridge. This contract is under P.W.D. supervision.

Satisfactory progress was made under departmental supervision on the sixty-five miles section between Ruvu Bridge and Kingolwira. This section is being built to a gravel specification which is intended to be suitable for bituminization at some later date. Construction proceeded at an average rate of four and a half miles per month, excluding finishing, and for three months from July

to October earthworks advanced at the rate of eight miles per month, involving the handling of a monthly average of 100,000 cubic yards of material. At the end of the year the major construction task had been accomplished and the section was expected to be complete at the end of March, 1954.

Morogoro–Iringa Road (*200 miles*).—With the exception of one major contract for 10 miles of the road where it passes through the difficult Iovi valley system, and of a number of petty contracts this work is being carried out departmentally using road plant and direct labour. At the end of the year work was in hand on sections totalling 130 miles, of which about 40 miles could be assessed as almost complete. The position on the major tasks involved was that 73 miles of earthworks, 45 miles of two-coat gravel surfacing, 10 miles of single-coat gravel, and 12 bridges were complete. In addition, eighteen bridges were in hand.

In October the construction unit at Mzumbe (9 miles) moved to Kidahi (109 miles) in the Great Ruaha Gorge, leaving the short section of existing road between Morogoro and Mzumbe to be reconstructed by the Provincial Engineer, Eastern Province. The main construction camp remained at Mikumi (72 miles) and was, at the close of the year, progressively switching its main effort to the section beyond Mikumi. Work continued on the widening of the existing road cut in rock in the Kitonga Gorge.

Tanga–Korogwe Road (*56 miles*).—Construction was continued by Societe Dumez under the supervision of Sir Alexander Gibb & Partners, but was delayed somewhat by a season which was wetter than usual. At the end of the year bituminization was complete and the road was open up to Muheza (20 miles) and all the earthwork had been finished. Abutments and piers at the Mnyusi and Pangani River bridges were awaiting steelwork expected early in 1954.

Namanga–Arusha–Himo Road (*140 miles*).—This project which provides a bitumen-surfaced road from Namanga to Himo, a distance of 132 miles, and includes an eight-miles gravel surfaced branch from near Himo to the Pangani River on the Tanga Road, was practically complete and open to traffic throughout its length at the end of the year.

Survey work was in progress throughout the year on the Dar es Salaam–Mtwara road, the Ifakara–Ngeita road in the Kilombero Valley, the road running between Mwanza and the Biharamulo road via Geita on various parts of the east–west trunk road and on parts of the Mpanda–Abercorn road in the Western Province. In addition to the work carried out on the major roads as listed above, considerable work was also undertaken on other roads in the territory £5,000 being made available for feeder roads in the Southern Province and £10,000 for the construction of new minor roads.

Notable amongst these smaller jobs was work on the notorious sandyridge on the Mpanda–Sumbawanga road, the commencement of the east–west trunk road particularly in the Bahi depression with funds made available for famine relief, the construction of the new Coronation Bridge in Tanga township, the first stage of the new road from Mtwara to Nangaruwe, the bridge over the Manyonga river on the Tabora–Mwanza road was started and in spite of twice suffering serious damage due to unexpected floods was nearing completion at the end of the year. Five other bridges were constructed on this road.

Aerodromes

Construction work continued on the new Dar es Salaam Aerodrome, which is to be in Class C (International Standard), the civil engineering works being supervised by Sir Alexander Gibb & Partners and the building and electrical works being carried out departmentally by direct labour. During the first half of the year progress on the runways and aprons was not satisfactory and a new arrangement was mutually agreed with the contractors in August whereby technical direction on the works was strengthened and the department was able to draft in extra plant, transport and skilled personnel. Progress and the quality of the work improved under the new arrangements and, at the end of the year, for the first phase (5,500 feet of main runway and 3,300 feet secondary runway) drainage and earthworks were about eighty per cent complete, sub-base for runways, aprons and taxiways were also eighty per cent complete and base course sixty per cent complete. One Belman hangar, the freight building and fire tender buildings were complete, and construction of the terminal building was well advanced. Work was also in hand on one Mainhill hangar, a workers' restaurant, a transmitter building, and the aerodrome lighting system.

Terminal buildings were completed at Arusha, Kigoma and Mbeya and commenced at Mwanza and Mtwara. At Dodoma and Tabora existing buildings were converted for use as terminals.

Work on extensions and improvements to runways and strips was in hand at Bukoba, Mafia, Mbeya and Kigoma.

At Mwanza work was commenced on a new aerodrome with a 6,000-feet murram runway and a modest start was made on a 4,600-feet runway for Kilwa Masoko.

At the end of 1952 the new bitumen runway at Tanga suffered damage due to the penetration of water between the gravel base course and the bituminized surfacing. Unfortunately, although the entering water was quickly intercepted, it was not possible to close the runway in the first half of the year due to operational requirements or thereafter, to commence repairs until the fourth quarter, owing to adverse weather conditions. Meanwhile, the areas affected were considerably extended by use. At the end of the year repair work was proceeding satisfactorily.

Medical Buildings

New Hospital, Dar es Salaam.—The preliminary sketch plans for the new hospital in Dar es Salaam were completed in July, 1953. Plans and estimates have been sent to the Secretary of State.

Maternity Wing, European Hospital, Dar es Salaam.—The equipment awaited for this wing arrived in the first half of the year and the bulk of it installed. It was opened in August. The air-conditioning plant for the labour theatres still awaits installation.

Extensions to Mirembe Hospital (formerly known as Mental Hospital), Dodoma.—In accordance with the policy of steady expansion of this hospital, a new 26-bed ward and a new 12-bed admission ward were added during the year.

Korogwe Hospital.—This 100-bed hospital was completed early in the year and opened in May.

Extensions to Training School, Mwanza.—A number of buildings were added to the existing Training School for Rural Medical Aids at Mwanza so that the number of students in residence may now be doubled.

Other Hospitals.—Work proceeded steadily at Nzega Hospital, and in addition by the end of the year, Lindi Hospital was more than two-thirds completed.

The construction of a new 25-bed hospital at Njombe was commenced and two new wards were constructed at Sumbawanga.

Education Buildings

Teachers' Training Centres, Mpwapwa, Butimba and Bwiru.—Progress was maintained at Mpwapwa and Bwiru by the Education Department, and at Butimba by the Public Works Department. These buildings are now almost completed and are in use.

Secondary Schools, Tabora, Songea and Mzumbe.—Work on extensions to the Girls' School at Tabora continued during 1953. Work by the Education Department on the new school at Songea continued; and work by the Public Works Department on the Mzumbe school, near Morogoro, was nearly completed during the year.

Other Education Buildings.—The new European day school at Oyster Bay, Dar es Salaam, was opened early in 1953, and the building of a new European boarding school was begun at Tabora; extensions at Mbeya school were continued; a new kitchen was built at Arusha school; and a site was chosen at Iringa for a new secondary school (European). The new Government Indian Secondary School in Dar es Salaam was opened; work was begun on a laboratory block and extensions to this school. Work began on the second trade school near Moshi, and on the Pare Girls' School at Same. Building continued at the Trade School, Ifunda.

Social Development

During the year the activities of the Department continued to be concentrated in the rural areas, where its staff was primarily concerned in assisting district teams in carrying out their development plans. The outstandingly successful work amongst the people living in the Pare Mountains (Tanga Province) was continued and the response to the establishment of women's clubs was most encouraging. At the end of the year twenty-seven such clubs were in existence and others were springing up spontaneously all over the area. Amongst the women of the Haya tribe in Bukoba, in the Lake Province, women's clubs are also now becoming popular. The Social Development Officer who has been working amongst the Wameru in the Arusha District of the Northern Province was able to report that some progress had been made in interesting them in measures for their own betterment. Their neighbours, the Waarusha, have been co-operative and the adult literacy campaign amongst the Wayao in the Tunduru District of the Southern Province met with an apathetic response and was not a success.

Demands for assistance with various schemes of rural social development continued to be greater than the Department could meet.

The growth of the broadcasting section continued, programmes were further expanded and the popularity of the local station, "Sauti ya Dar es Salaam", increases at a gratifying rate.

The Arnautoglu Community Centre in Dar es Salaam, which was completed and opened in 1952, has proved to be a most popular and successful community centre. Members of all races regularly make use of it and it offers both recreational and educational facilities.

Township Water Supplies and Drainage

During the year the Government accepted the recommendation that the water supply renewals fund should be wound up and a new form of annual statement of accounts will be introduced for each supply in future. The latter will require the complete revaluation of each supply as the works now stand. When these values are completed a long overdue review of the rating system will be possible.

The new purification plant at Mtoni in Dar es Salaam has settled down to operation at a steady one and three quarter million gallons per day while work was put in hand on the design of extensions to increase the ultimate capacity of the plant to approximately four million gallons per day.

A further successful source of supply of water for Dar es Salaam was found at Kitungule. Investigation of Mzinga Creek as another possible additional source was started and work proceeded on the underdrainage of the creek.

At Mtwara, contractors were engaged on cleaning out the existing deep wells before commencing the drilling of the three new boreholes in the same general area. The 150,000-gallon steel service reservoir was ready for use in the improved distribution system.

Design work on the new treatment plant and on mains from Kazima Dam in Tabora was completed by the Public Works Department, while progress was made by the Consulting Engineers on the design and preparation of drawings for raising the dam.

The first three boreholes drilled under contract in Tanga proved water in quantity and the Consulting Engineers finalized the layout plans for the mains network in the area of these boreholes.

Good progress was made during the year in laying the main and subsidiary sewers in the commercial area of Dar es Salaam and by the end of the year work was almost completed, while construction of the screening plant and main sea outfall pipe was well advanced.

One section of the first area of a suface water drainage scheme in the commercial area of Dar es Salaam was completed and tenders called for the other section. Designs were completed for the remaining areas.

Other Public Buildings and Works

Workshops and Depots.—Depots were completed at Songea and Kilwa and the Heavy Plant Workshops at Morogoro were almost completed.

Government Stores.—The Tanga stores were completed and work continued at Mtwara and Dar es Salaam.

Senior Service Housing.—Seventy quarters were completed during the year as well as six blocks of flats and a hostel. Work continued on fifteen other quarters and on the Chief Secretary's new house in Dar es Salaam.

Junior Service Housing, Grade I & III.—Forty Grade I quarters and 120 Grade III were completed during the year and work continued on two Grade I and thirty Grade III quarters.

Office Accommodation.—New district offices at Ngara and Mtwara were completed and steady progress was made on the new provincial office block in Mwanza.

Grain Storage.—The territory now has 65,000 tons of storage capacity strategically spread throughout the territory with an additional 9,800 tons under construction included in which is 4,000 tons of underground pit storage.

Police Lines.—Work was carried out on increasing accommodation at Mwanza, Ngara-Nairobi, Sanya-Juu, Ol Molog, Ngare-Nanyuki and Uvinza. Other police buildings were constructed in Dar es Salaam and Moshi.

K.A.R. Barracks.—26 senior service houses and 318 African quarters were completed and work was also carried out on offices, garages, stores, the water tower and the rifle range.

African Urban Housing.—In continuation of experimental building in an endeavour to produce cheap economic housing in permanent material, twenty-four terraced houses of one, two and three rooms, in blocks of four and each house having its own lavatory and kitchen, were constructed at Ilala during the first four months of the year.

In July, large-scale development commenced at Magomeni (one and a half miles from Dar es Salaam on the new Dar es Salaam–Morogoro road) and by December 1953, 450 houses were completed by contract.

These houses are constructed on the pier and panel system, utilizing concrete piers with three-inch hollow brick and concrete walling, with tiled roof and concrete floors.

Lavatories are pit-type, four compartments being constructed over each pit.

The economic rents for these are one room Shs. 12/-, two rooms Shs. 20/- and three rooms Shs. 29/- per month.

In addition to the above, the following houses were constructed. Temeke eight, Kilosa ten, Mwanza sixteen, Mtwara seventy-two, Mbeya twenty, Iringa twenty, Tanga sixty, Arusha one hundred and Moshi twenty.

APPENDIX II

THE DEVELOPMENT BUDGET—STATEMENT OF EXPENDITURE

(Part II & III of the Estimates)

Details of Expenditure	Total Expenditure to 31.12.51	Actual Expenditure 1952	Actual Expenditure 1953	Total Expenditure to 31.12.53	Estimates 1954 1st 6 months
Conservation and Development of Natural Resources	1,618,177	543,534	387,869	2,549,580	276,315
Development of Rural Water Supplies	737,988	208,619	103,820	1,050,427	113,420
Roads	2,624,537	1,879,743	1,608,558	6,112,838	697,905
Aerodromes	243,603	350,552	296,386	890,541	165,000
Social Services	1,023,527	386,709	235,382	1,645,618	206,602
Township Development	1,105,379	367,519	467,598	1,940,496	280,000
Public Buildings and Works ...	2,487,857	1,045,528	394,975	3,928,360	175,125
African Urban Housing	135,585	167,286	154,654	453,525	80,000
Miscellaneous	451,576	59,820	50,000	561,396	27,940
Total ...	10,424,229	5,009,310	3,699,242	19,132,781	2,026,307